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CONTRIBUTIONS TO VETERINARY MEDICINE AND SURGERY, ON SOME OF THE DISEASES OF HORSES NOT FULLY DESCRIBED BY AUTHORS.

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OSTEOPHYTE.

THIS form of bony formation is of very frequent occurrence in horses; and yet, strange to say, in veterinary literature it has been almost entirely overlooked. Of the various Osteophytes described by pathological anatomists, the *Stalactite* variety occurs most frequently in the horse, especially that form described as appearing "as if a quantity of bony matter had been poured over a bone, and had coagulated as it flowed. It forms masses which sometimes give the impression that the bony substance had been dropped upon a bone, and had there solidified; in which case the surface of the mass, whether even or uneven, is smooth. At other times it appears as if the bony matter had been poured in a stream over larger surfaces of a bone, and had there coagulated."

The examination of the bones of a seven-year-old horse, which was very much "over in his knees," led me first to inquire into this disease. The metacarpal and metatarsal, as well as the pastern

bones of all the limbs, were coated with stalactite Osteophyte, as were also the vertebræ, and especially the transverse processes of the cervical and bodies of the dorsal. I had the bones cleaned and mounted as a skeleton.

Had it been confined to the leg bones, I probably should have considered it as being due to concussion, and have looked upon it as Exostosis. The subsequent examination of numerous similar cases, however, convinced me that this is a constitutional affection, and arising not from local causes, but derangement of the vital functions, especially digestion, assimilation, and elimination. In almost all old animals (say over twenty years of age), incrustations of this kind are invariably present, particularly on the bones below the hock and knee, and the cervical and dorsal vertebræ: on the latter extending in the longitudinal direction in isolated masses, uniting one side of the articulation, and sometimes extending so as to join several vertebræ, and even the whole dorsal chain; distorting the column in one case, producing "roached-back"; in another the opposite condition, the unseemly "hollow-back." I do not wish to be understood to assert that all cases of bent knees, "knuckled fetlocks," "roached" or "hollow-backs," are due to Osteophytes; but a very large per centage most assuredly are.

These formations are always slow and insidious in their growth, seldom painful enough to cause lameness; yet accompanied by uneasiness, and a desire to avoid concussion, and to remove the weight off the bones as much as possible, by bending forward the joints. This constant relaxation of the posterior ligaments leads to a contraction of them; and this, gradually increasing, gives the animal a jaded, tottering appearance.

Once the disease is established, circumstances are sadly against the poor animal's chances of recovery; when the horse shows signs of weakness in the knees, he is no longer thought fit for the carriage or hack, and is sold; he then passes into the business van; thence to the cab-stand,—and by gradual stages he descends, until he becomes the poor half-starved drudge, and finally ends his career in the knacker's yard.

Care must be taken to distinguish between the bony tumour of Exostosis, and the diffused deposit of Osteophyte. The

former is always the result of inflammation of the periosteum or the bone itself, and is more local—usually confined to the immediate vicinity of the inflamed spot; and "although no well-marked line of distinction can be drawn between the Exostosis and the Osteophyte, yet the latter presents such striking peculiarities that, in the majority of cases, it may at once be recognised, and is but rarely liable to be confounded with the former."

The pathology of this disease is referable to an accumulation in the system of *materies morbi*, of a nature similar in many respects to the gouty diathesis of man; but the horse being neither a gourmand nor a wine-bibber,—seldom leading a sedentary life, nor being the slave of sensual passions,—is exempt in a great measure from the complications and painful symptoms so characteristic of this disease in man. Yet he is far from being exempt from exposure to causes calculated to favour the retention in the system of excrementitious matters which should be evacuated.

The accumulation of such impurities usually takes place in the less vascular structures: those with a more active circulation more readily throwing them off; hence we find the bones and joints in these cases become the seat of deposit.

It occurs most commonly in carriage and road horses. This class furnishes more cases in the first stage than any other, owing to their being highly fed and seldom worked; but when used, they are driven at a rapid pace, which induces perspiration,—and being kept standing for a length of time in the open air, perhaps under a cold rain or wind, the functions of the skin are checked; and this, frequently repeated, favours imperfect cutaneous elimination of impurities from the blood.

Many circumstances in the management of horses—such as irregular feeding, inferior quality of food, fast driving, nervous excitability (natural or produced by the too free use of the whip)—interfere with the proper digestion and assimilation of the food, and favour the retention of *materies morbi* in the system, which produces this disease; and the hard work and constant exposure (to which his change of owner consigns him), speedily develops the malady. The deflection of the limbs or spine from the

natural symmetrical form rapidly increases, until the poor animal becomes a jaded, tottering-looking creature, henceforth doomed to a life of severe toil and misery.

The formation of Osteophyte is not always chronic and comparatively painless, although such is its most common form.

I have met with numerous cases of osteophytic nodules forming on the anterior part of the head of the *os suffraginis*, immediately under the tendon of the *extensor pedis* and *extensor suffraginis*, often involving the insertion of the latter. At one time I was of opinion that these nodules were the result of Periostitis, caused accidentally by extreme flexion of the fetlock joint, leading to overstretching of the tendon at its insertion, or by striking this part against some hard body, thereby causing inflammation of the periosteum or bone-tissue.

That they are really Osteophytes, and dependent not on local irritation, but constitutional impurities, has been apparent to me for many years; and from the fact that, in many cases, they have occurred on more than one leg. For instance, in a mare belonging to a butcher in this city, about seven years ago, an osseous tumour, as above described, formed on the left fore-leg: at first scarcely perceptible, but painful to the touch and gradually increasing. Under treatment its growth was arrested, and the lameness removed—the animal resuming work.

In about a month she returned with a similar formation on the other fore-leg, which also seemed to subside under treatment; but only to appear on one of the hind-legs, and in a few weeks after on the other—all four legs being thus affected. When the lameness disappeared from the last one, the owner, on learning my opinion that it was more than likely that similar formations would occur on the cannon bones or the vertebræ, concluded to dispose of her; this he soon after did, and I lost sight of her. Since then, numerous similar cases have come under my observation; in most, however, affecting only two limbs, and in many only one. In all, splints of the long description, or spavins, were present, showing what is usually termed the "ossific diathesis." In no case could I trace it to external violence or injury.

The formation of the Osteophytes on the *os suffraginis* is very common in this country—owing, no doubt, to the extreme and

sudden changes of temperature favouring imperfection, especially of cutaneous elimination; and locally, in Montreal, from the water containing a large amount of calcareous salts in solution.

The animal's action resembles shoulder lameness; he swings the leg, the lameness is usually severe, and the nodule painful.

Treatment.—Total cessation from work is necessary; many cases of "knuckling," or bending of the knees, will improve greatly by merely turning the animals out for a summer: the change of diet, the soft, succulent grass, favouring more thorough digestion, and more perfect assimilation. Again, the relaxed condition of the bowels, and the activity of the kidneys, increases the evacuation of impurities, and in this way the system is purged of *materies morbi*. The soft, cool soil also lessens the concussion on the affected bones, and thus favours a cessation of the disease.

This plan of treatment is that generally recommended, but seldom with any idea of the reason why. However, the benefits thus derived are only partial, and are seldom lasting.

The first step in the treatment is to prepare the animal for, and administer, a full dose of purgative medicine. This is to be followed by colchicum and nitrate of potass; remove the shoes, and have the feet made perfectly level; let the animal stand in an earthen or clay-floored loose-box; apply bandages saturated in a lotion of nitrate of potass, chloride of ammonium, and chloride of sodium, for nearly a week; then (in general Osteophyte of the metacarpals) apply a blister of equal parts of cantharidine and biniodide of mercury ointment. The treatment should be continued at intervals for six or eight months; and if allowed to run in a convenient paddock, the success will be more certain. Nitro-muriatic acid may occasionally be substituted for the colchicum and potass, with an occasional purgative, and the avoidance of rain and damp.

In treating the local form, either hot poultices—hot damp bandages covered by oiled silk,—or poultices of bran and snow or ground ice in the first place; followed subsequently by blisters, or firing and blistering. Special attention should be given to the feet: they must be made perfectly level, and brought as near as possible to the natural form.

In cases of knuckling of the fetlocks, the toe may be elongated by a tip projecting in front, but the animal must be kept confined to a loose-box while so shod, and the constitutional and local treatment persevered in. By this means many valuable animals, which are so often sacrificed, will be saved.

NOTES ON GLANDERS.

BY A. J. OWLES, STAFF VETERINARY SURGEON, ALDERSHOT.

THE publication of the paper on the "Diagnosis of Glanders," in the *Veterinary Journal* for March, gives to the number a special value at a time like the present, when contagious diseases occupy so much of the public attention, and when it is to be feared that Glanders is on the increase in this country. The author of the essay, in his usual able and interesting manner, has indicated the direction our investigation should extend, in order to be able to diagnose the presence of this formidable disease under the most unfavourable circumstances.

I cannot attempt to add to that paper; yet the simple record of some cases which at no very distant period came under my observation, as well as the impression made upon me at the time, may tend to support the claim the disease undoubtedly has upon our attention, for unceasing vigilance, both to understand its pathological history, and to detect it in its various stages, as far as it may be possible to do so.

Whether the condition of the lung, called "Tuberculosis," be true tubercular disease or not, I am not in a position to say. Although inclined to the opinion that true tubercles, as well as other forms of nodules or granules, may exist in the same glandered subject, one thing appears quite certain—viz., that there is some intimate and almost inseparable connexion between "Tuberculosis," so called, and Glanders in the horse. In this paper the term will be used.

Perhaps the greatest danger of our failing to detect the presence of the disease is when the lungs are, or appear to be, the *only* seat of those changes which we designate Tuberculosis.

The conviction that this condition is not exceptional, when Glanders has existed in any stable or stud for a considerable period, has been forced upon me by personal observation; and it is probably owing to this fact that the eradication of Glanders from a stud is occasionally so difficult. I do not think the difficulty is in destroying the contagium in the stable, etc., but rather in detecting the infected animals when the disease has once established itself among a number of horses.

Two horses, A and B, were admitted to an infirmary suffering from Catarrhal Fever; they were both attended to by the same man; the disease in a short time assumed a suspicious character in both animals, and the horses were removed to a lazaret for observation and segregation, while a separate attendant was provided for each. In A the ulceration of the Schneiderian membrane became very active, with swelling, etc., of the submaxillary gland, and inflamed lymphatic vessels appeared on the side of the face: in short, the disease became acute and virulent. The other, B, had Farcy ulcers over the body, and also abrasions in the nostrils; but the disease, although sufficiently virulent, was not equally active in its progress, nor in the amount of febrile disturbance accompanying it, as with the other case (A). Still this horse (B) most probably first developed Glanders while under treatment for Catarrh, and communicated it to its stable companion, which, at such a time, would be specially susceptible. The autopsy fully warranted me at the time in arriving at this conclusion, and the course of the disease in the infected animal, A, confined as it was to the head only, affords strong corroborative evidence in the same direction. The examination of A after death revealed very extensive and active ulceration of the membrane lining the nasal cavities, with very slight evidence of lung complications. But in the case of B the conditions were exactly reversed; the lungs were extensively tuberculosed—an alteration which was evidently of long standing—while the Schneiderian membrane was but little affected. This horse stood with other horses among which Glanders had appeared about two years previously; and probably the lungs had been gradually developing tubercles during most of that period, and in all likelihood she had been a veritable centre of contagion for

a considerable period, although presenting few if any symptoms to excite suspicions as to her real condition. On contracting Catarrhal Fever, however, the latent and specific disease became active, as shown above, and possibly the groom unconsciously inoculated A therefrom.

Subsequently to the above, a large number of horses, among which cases of Glanders had appeared from time to time, came under my observation; and, with the veterinary surgeon in immediate charge, they received a great deal of our attention, with the view of eliminating any which might manifest suspicious symptoms. On one occasion we caused two of the horses to be segregated, in consequence of an enlarged submaxillary gland in one, and in the other disease of the lungs, probably Tuberculosis. These animals were kept for some time under careful observation; neither of them had a discharge of a suspicious character from the nostrils; the one with the swollen gland, I subsequently discovered, had chronic disease of the lungs, which we thought might be Tuberculosis, from the animal's history and the enlarged gland; but the mare was in good condition and spirits. She was therefore kept alive, though great precautions were taken to prevent her communicating any virus to other animals; the gland became much reduced in size, but never entirely disappeared.

The other gradually lost flesh and vivacity; but apart from the disease of the lungs, and her history, she might not have excited suspicion as to her real state.

Both were destroyed upon the assumption that they were incurably diseased in the lungs, and unfit to associate with other horses.

The autopsy revealed those organs in a very advanced and extensive stage of tubercular disease, probably of long standing. I need not comment upon the importance of searching for such animals in a stud known to have suffered from Glanders: such instances as the foregoing speak more forcibly than I could.

From the above cases, and others which I need not lengthen this paper by enumerating, it appears that when horses contract the malady by cohabitation with diseased animals, the morbid

changes probably take place at first internally, and when by inoculation, as in A, at or near the seat of contact of the virus.

With reference to the question of "Glanders in India," I was informed yesterday by two veterinary officers of experience in that country, that in Bengal the disease is unfortunately very prevalent, both among the native ponies and the Government horses.*

RUPTURE OF THE UTERUS DURING THE SEVENTH MONTH OF GESTATION.

BY A. E. MACGILLIVRAY, V.S., BANFF, N.B.

On the afternoon of the first day of January last, I received a note from a young gentleman who owns a farm some four miles from here, asking me to attend a two-year-old quey as soon as possible, as she was very uneasy, rising and lying often, and showing slight calving pains.

On arriving at the farm, I found matters as mentioned; and, in addition, immense distension of the abdomen, and a thick reddish-brown discharge from the vagina; the latter, however, was very slight. The abdominal distension was evidently not caused by gas; from its extent and low position, I argued that it could not *entirely* proceed from *Hydrops Uteri;* and from the fact that she had eaten her morning allowance of food, I was almost certain that the fluid causing the distension was neither inside the intestines themselves, nor the result of inflammation of their parietes.

Whence, then, came the fluid causing such serious abdominal distension?

After considering the nature of the vaginal discharge, and the slight calving pains, I concluded that the quey was about to throw a dead calf, and immediately proceeded to examine, *per vaginam,* the state of the uterine outlet. I found the *os uteri* slightly dilated, and a bag about the size of one's fist, evidently

* In the "Transactions of the Veterinary Medical Association" for 1842-43, will be found a letter from the lamented Moorcroft, written in Bareilly, India, in 1811, on Glanders and Farcy in that country, which leaves no doubt as to their existence there at that time.—*Ed.* V. J.

part of some of the fœtal membrane, forced out through same into the vaginal canal. On rupturing this bag, and pulling it outside, I found it to be part of the chorion, with two placentulæ or cotyledons attached. Notwithstanding the tearing of the decidual membranes, very little, if any, of the usually abundant fluid discharge took place, and the pains were almost *nil*. The *os uteri* was only relaxed so far as to allow the introduction of three fingers; and even after the most strenuous efforts to distend it, it scarcely yielded a hair's-breadth.

Introducing one finger through the *os uteri*, and pushing with considerable force, I came in contact with what seemed to be part of a fœtus, but what part I failed to distinguish. Seeing that this was the utmost I could do, after applying some simple emollient to the contracted parts, I resolved to leave the quey alone for two hours.

What struck me as most peculiar, was the almost entire absence of the commonly troublesome and abundant fluid discharge usually following the rupture of the fœtal membranes; here there was not, nor ever had been, any such discharge; and this was the more curious, considering the great abdominal distension. Never having met with an instance of rupture of the uterus, and consequent escape of the fluid contents into the abdominal cavity, it did not occur to me that this might be the case here.

On returning two hours afterwards, I found my patient sinking fast: pulse 130 and very weak; abdominal distension much increased, with great uneasiness, but no straining. On exploration, the *os uteri* remained as rigid as ever; in fact, the want of the natural expulsive efforts from the inside of the uterus outward almost rendered its relaxation impossible. In all my previous cases of rigidity of the *os uteri*, I found that manipulation invariably brought on strong uterine contractions; and thus the fœtus pushing on one side of the *os*, and the operator on the other (*nature* and *artifice*), the necessary expansion in many cases gradually resulted. Here, however, nature was, as it were, inert.

Seeing no probability of relieving the quey, she being evidently failing fast, and being in good condition, I advised the

owner to have her slaughtered. He at once acquiesced, and had her carcase carted to the public slaughter-house.

When the abdominal cavity was laid open, a great quantity of a nearly transparent and slightly yellow-coloured fluid escaped; the quantity of fluid was extraordinary—a great many gallons, I should say.

There was an immense rupture or tear in the anterior extremity, or *fundus*, of the uterus, somewhat inclining to the left cornu. One fœtus had escaped from the uterus altogether, and was found (free from all its membranes and utero-maternal connections) in the right hypochrondiac region, or nearly so. Another fœtus was still in the uterus, mostly to the right side or cornu of the same; part of the unbroken *amnion* enveloping this second fœtus was jutting out through the rupture in the *fundus* of the uterus. The two fœtuses did not seem to have been any great length of time dead, as there was no putrid smell about them or the decidual membranes. The walls of the uterus were apparently healthy. The external surface of the intestines and liver, etc., were bleached and watery looking; and near where the erratic fœtus lay, the abdominal wall and peritoneal covering was very watery, and presented a slightly thickened serous deposit, which had to be scraped off along with the accompanying peritoneal covering.

Remarks.—The great point in the foregoing case seems to me to be, what caused the rupture or tear in the *fundus uteri?* From the previous history of the quey, I am inclined to think that there must have been *hydrops uteri* in existence for a considerable time; as she had for some days appeared to be large-bellied, was often uneasy, and would lie down for a few minutes, even during the time of consuming her diurnal supply of turnips. Some three or four days before I was called to attend, she was turned out, along with a few other queys and cows, for a run in a grass park; and it was thought that another quey had then given her a violent toss or something of that sort. Now, I consider it extremely likely that the already over-distended and tender uterus (a "virgin" uterus—so to speak—with two calves and an extra amount of fluid) had at that time received material injury, if not partial rupture; and that then, or after, the rupture had

become large enough to allow the escape of one fœtus into the extra-uterine abdominal cavity. The irritation caused by the presence of the fœtus and fœtal membranes and fluids among the other abdominal viscera would produce effusion from the peritoneal coverings of these viscera, and hence account for the immense quantity of fluid which escaped when the abdomen was laid open.

Since the above case occurred I have received M. Saint-Cyr's recently-published work on "Veterinary Obstetrics" (which is a most valuable, exhaustive, and very interesting contribution to the literature of our profession), and I find that he quotes several cases of rupture of the uterus during gestation, which have happened in the practice of foreign veterinarians, and been recorded by them. M. Saint-Cyr says it is an accident of *very rare* occurrence; and it is as well for our patients and their owners that it is so, for death or slaughter is the only possible finale!

ARMY REMOUNTS.

BY W. B. WALTERS, M.R.C.V.S., INNISKILLING DRAGOONS.

MUCH has been written of late with reference to the important question of army recruiting, and many valuable suggestions as to the best means of procuring men to fill our ranks have been advanced; but as yet very little has been said concerning our future military horse-supply, although the growing scarcity and increased price of horses of the remount class in Ireland should be sufficient to render the subject one of serious consideration.

The writer has no hesitation in stating that animals suitable for cavalry and artillery purposes are at the present time both scarcer and dearer than ever; and the fact of this gradual diminution of serviceable young three and four year old horses must be forcibly apparent to any one who has been in the habit of constantly visiting the principal Irish fairs during the last four or five years.

No doubt the high price of other stock has a great deal to do with the decrease of a certain class of horses; as the small

farmers declare that it pays them very much better to breed and feed cattle and sheep, than to run the risk of keeping a colt for three or four years, with the prospect of selling him at a price varying from £30 to £40.

The increase of late years in the number of Continental remount agents in Ireland, as well as foreign purchasers of strong, well-bred mares for breeding purposes, not only drains the country to a considerable extent of a most useful class of horse, but tends to give an upward direction to the general market.

It is not, however, the writer's wish to touch upon the various suggestions that have from time to time been advanced for improving the breed of horses in this country (although much might be said on the subject), nor to allude to the existing system of remounting our regiments; for it is well known that, up to the present time, the method has answered well enough. If, however, the requirements of the service should suddenly demand the purchase of a large number of horses, either to augment our various mounted corps, or to fill the gaps which the exigencies of war would speedily make in our ranks, it is easy to foresee how difficult it would be to procure animals (especially those suitable for cavalry) in sufficient numbers, and of the requisite age, size, and general fitness for immediate work, at anything but a most exorbitant price.

Looking at this anticipated difficulty from a practical point of view, a method suggests itself by which almost any number of young, well-bred horses, with plenty of bone and substance, could be imported into the United Kingdom with comparative ease.

The writer alludes to the Dominion of Canada; and having had some experience in the principal horse-breeding districts of that country from 1862 to 1866, he can assert that at that time, notwithstanding the droves of serviceable horses that were being bought up and sent into the United States for military purposes, no difficulty was ever found in obtaining artillery remounts; and, moreover, almost any number of animals suitable for light or heavy cavalry could have been purchased, at an average of somewhere about £20 sterling.

As the country has been steadily improving of late years, it is

to be supposed that horse-breeding has not been neglected. On the contrary, the writer has been credibly informed that the number of horses has considerably increased in the principal breeding counties and townships north and west of Toronto. These horses are, as a rule, mostly by imported sires or their immediate descendants, and are particularly remarkable for their good road action, soundness, and enduring qualities. They are, moreover, easily trained, and generally (from four years old) in hard-fed condition. As regards the ease with which Canadian horses could have been, and no doubt can now be purchased, it is only necessary to go back to the winter of 1861-2, when it will be remembered that a considerable force of infantry and artillery was sent out to Canada, and the officers who accompanied the 4th Brigade, Royal Artillery, will doubtless recollect how well, and with what celerity, their batteries were horsed, and (notwithstanding the great demand) at an average of very little more than half the present Government remount price at home.

The whole of the batteries were mounted in a few weeks; and it is questionable if any brigade on home service could purchase a more even, or a more useful-looking lot of animals.

In the event of a necessity arising at any time for the purchase of Canadian horses in large numbers, some of the unoccupied barracks in Toronto would answer admirably as depôts; and as that city is nearly in the centre of the principal breeding districts, the animals could the more easily be collected and forwarded to the nearest seaport for shipment, as required.

The liability to loss from death or injury would be very slight during the passage across the Atlantic, in these days of improved steam navigation—more especially in the summer months; and a vessel like the Great Eastern could accommodate very nearly sufficient horses on board to mount an ordinary cavalry regiment.

OBSCURE CASES.

BY R. G. WALTERS, M.R.S.C.V.S., NEWPORT, SALOP.

CASE 1.—On December 26th, I was sent for to attend a horse at Leyton Hall. On arrival I found the patient, a seven-year-old hunter, offering the following symptoms: Pulse about sixty per minute, and very feeble; breathing accelerated and laboured; visible mucous membranes highly injected, and having a yellowish tinge; mouth hot; throat sore; drooping ears; limbs alternately hot and cold; slight cough, which appears to cause much pain. On auscultation I detected inflammation of one lung. The bowels were constipated, and the appetite was bad—the animal scarcely taking any food. When made to move, the horse staggered a good deal, dragged his hind-legs as if partially paralysed, and seemed very much prostrated, with the head hanging nearly to the ground.

On inquiry, I was informed that he had been falling off some four or five days previous to my being called in. I treated the case as one of Pleuro-pneumonia, complicated with sore throat, and brought on, as I considered, by a hard day's hunting. He progressed favourably under treatment; and in the course of a week I pronounced him out of danger, ordering him a little boiled barley, and some crushed oats and bran, with a few roots and a little hay; prescribing some mild tonic medicine which was to be given until I saw him again in a few days. This was on January 3rd. On the 7th, when I called, he was very much improved in condition and spirits; so I recommended him to be fed as usual, and to have gentle walking exercise.

On the 13th I was sent for again to attend the same horse, as he was reported very much worse. When I arrived he showed the following symptoms: Pulse fifty to sixty beats per minute, and very weak, being scarcely perceptible at the jaw, though the heart's impetus was strong; colicky pains coming on every ten or fifteen minutes; obstinate constipation, and loss of appetite; extremities first hot and then cold. Aperients, with small doses of belladonna and aconite, were administered, and hot fomentations and mustard cataplasma were ordered to be applied to the

chest and abdomen; enemas were also given every two hours. A mucilaginous diet was also recommended for him. I visited him twice a day until the 15th, when he died. The bowels had not acted from the 12th up to this date. Unfortunately, I could not be present at the autopsy; but the bailiff informed me that the bowels were very much inflamed throughout, as was also the stomach; one lung was also much larger than the other, and covered with white spots (which were, no doubt, exudations of lymph). It may be mentioned that there was no acute pain from the commencement of the second attack, until the animal died.

CASE 2.—On January 25th I was called to see another horse, used for carriage purposes, the symptoms being as nearly as possible the same as in Case 1. This animal had been unwell for several days previous to my seeing it. There was more prostration, emaciation, and loss of motor power in the hind extremities, perhaps, than in the other case.

My suspicion was now aroused as to there being some specific cause for this outbreak—there being no Influenza prevailing at that time. I therefore treated this case as if the illness was due to some specific blood or mineral poisoning; but no remedies appeared to give any relief, and the horse died on the 30th.

On February 1st I made a *post-mortem* examination, and noted the following alterations. On opening the chest it was found to contain a large quantity of dark-coloured serum, with an immense quantity of adhesive lymph of a claret hue—quite unlike the pale straw-coloured lymph usually met with in Pleurisy. One lung was highly inflamed, and in places partially hepatized. The larynx, trachea, and bronchial tubes were slightly inflamed, as was also the liver; while the spleen was about twice the size it should have been, but was otherwise healthy. The bailiff informed me that this organ was larger in Case 1. The interior of the stomach offered indications of having been acted upon by some mineral poison, as well as the bowels; this you will see from the portions sent you.

Observations.—The water the horses had to drink was conveyed through a lead pipe from a pit some fifty yards distant from the stables. By the side of this pit was a quantity of

mortar, which, I was informed, was always there in more or less quantity, as they made the lime into mortar for the estate at this place. Is it possible that the lime-water from this pit could act upon the lead pipe, and so render the water poisonous? Or had these animals been "doctored" by the groom with some such drugs as antimony, arsenic, or sulphuric acid. The latter is, I must confess, my opinion, as both horses were low in condition.

I may add that I had three horses die at a farm about six months ago with very similar symptoms, and the necroscopical appearances were very much of the same character. The pain, however, appeared to be more acute. All the other horses—eight in number—exhibited syptoms of poisoning, but they all recovered.

[The stomach, intestines, etc., forwarded, were carefully analysed, but not the slightest trace of any metallic poison could be discovered. The pulmonary complications rather militate against the opinion that death was due to this cause.]

RINDERPEST IN CHINA.

BY RICHARD KEELE, ESQ., OF SHANGHAI, CHINA.

FOR many years past, residents in the foreign settlement of Shanghai have been put to most serious inconvenience by the loss of the cows, on which alone they could depend for a moderately pure supply of milk. On one or two occasions dairies were started by enterprising foreigners, but failed—owing in great measure, no doubt, to the heavy losses by death. Owners were informed by their native cowmen that the cows died, if in summer, owing to the great heat; at other seasons, from eating a poisonous herb; while in Hong Kong deaths were often ascribed to poison administered by the native milk manufacturers, who desired to have a monopoly of the milk supply.

Early in the spring of 1872, a disease appeared in the sheds of the British dairy, Shanghai, owned by an Englishman who had formed a large and very valuable herd of cows by importations

from England, France, Australia, and California, and by breeding from the imported parents. His experience in cattle in England, Australia, New Zealand, and in a lesser degree in India, gave him an advantage over his predecessors in the dairy business; and this resulted in a lucrative, flourishing concern. The first animal attacked—an imported Limousin heifer—died after four days' sickness; and as the disease was different to anything the owner had ever before seen, and several beasts in the same shed were sick, the aid of Dr. Henderson, the officer of health of the Shanghai Municipal Council, was solicited, and kindly given. He at once detected the great similarity of the disease to what he had seen before leaving Scotland in 1866 or 1867: a *post-mortem* examination confirmed this opinion; and, though immediate steps were taken to segregate the cattle by renting a number of Chinese houses, and giving each beast a separate house, quite three-fourths of the herd succumbed. In the first shed attacked, out of twenty head, chiefly dry in-calf cows, and heifers, only one remained alive—an imported Ayrshire bull. He had the disease, but recovered. In him the characteristics were most marked: the purulent ropy discharge from the nostrils coming literally in quarts, with weeping from the eyes; while the diarrhœa was most copious and offensive. He was reduced to a skeleton, and became as denuded of hair as a new-born mouse, while patches of scurfy eruption appeared on various parts of his body. Unfortunately, I have not at hand the description given by Dr. Henderson of the *post-mortem* examinations made in his presence, and can only give my own unprofessional account of the lesions I saw in a great number of cattle examined. Briefly, then, as a rule, the lungs, heart, liver, spleen were in a normal state, as were the stomachs also, excepting that often there was an appearance of peritoneal inflammation having commenced, and they were usually impacted; the gall-bladder was distended, and this was the only organ the Chinese slaughtermen ever pointed to as showing disease. The mucous membrane, from the nose to the tail, was always more or less affected. Opening up the nostril, a quantity of purulent secretion was found, while the lining membrane was discoloured—red, purple, and lead-coloured; there were erosions on the lips, gums,

and inside the nostril; the interior of the larynx I can best describe as mottled, red, claret-coloured, purple, and lead-coloured; the discoloration extended down the trachea, which contained flakes of viscid yellow secretion; in some cases masses of curdy-looking matter, forming a layer in, and taking the shape of, the trachea, were found; and the bronchial tubes were sometimes full of frothy matter, with occasional flakes of the yellow secretion. The small intestine, throughout its entire length, was the seat of inflammation, with numerous patches of a much deeper colour—reddish-purple—studded here and there with raised blue points like small ulcers; the large intestine was red and inflamed throughout; while sometimes a striped red and black appearance, extending through the cæcum, was present. The vulva and vagina were red and injected.

The symptoms during life were: loss of appetite and diminished quantity of milk; constipation; a heightened temperature, and much accelerated pulse; discharge from nose, and, in less degree, from the eyes; and redness of the visible mucous membranes. These symptoms were followed by total loss of appetite, except for water, which in some cases was taken greedily; suspension of rumination and milk secretion; and increased discharge from nose and eyes. The constipation was succeeded by a most profuse and offensive diarrhœa, and often by dysenteric purging; the urine was high-coloured and offensive; the mucous membranes assumed a more leaden hue, and death quickly ensued,—often occurring so quietly as to leave the victim lying as if asleep, with the head turned into the flank. I have omitted to mention one, to me, most characteristic symptom, which I have observed in no other disease; and that was the extraordinary drooping of the ears: in many cases the ears lying by the cheeks much as a lop-eared rabbit's do. The duration of the disease was, on the average, under five days from the first appearance of the symptoms.

A number of other cattle owned by foreigners died at this time; in each case it was proved that they had been in contact in some way with the British dairy herd. As the first that had been attacked and died were heifers imported from France, and as Rinderpest had been raging in that country, an

impression got abroad that the plague had been introduced into China by the French heifers. This seemed hardly probable, as, in addition to the voyage of forty-six days, the heifers had been in Shanghai four months, during which time the disease could not have lain dormant. Any question of this kind was, however, soon set at rest by the Inspector of Markets, appointed by the Municipal Council of the Anglo-American Settlement of Shanghai, finding at one of the slaughter-houses the carcase of a buffalo that had evidently died of the same disease that had been so fatal to so many foreign cattle. Inquiry elicited that this beast had been brought in a boat from a part of the country where foreign cattle could not have penetrated. This discovery was followed by several other carcases being found, and very shortly after by the daily arrival from the country of live cattle in a more or less advanced stage of the disease.

Inquiries from Chinese cattle dealers and owners confirmed the idea that the plague was native, and not imported ; and in a memorandum addressed by the health officer to the Municipal Council, he gave it as his opinion that the disease from which cattle were suffering in Shanghai was certainly most contagious, was identical with Cattle Plague, and that Rinderpest was as enzoötic on the plains of China as in the steppes of Russia. This memorandum provoked a reply from the Inspector of Markets of the "Concession Française," who denied the existence of any disease amongst native cattle, and asserted that the death of foreign cattle was to be ascribed to " Peripneumonie," induced by faulty stable management. He was in a few days refuted most effectually by the Anglo-American inspector, who, visiting a slaughter-house in the French Concession, found several cattle waiting their turn for slaughter, and which were unmistakeably affected. He purchased one of these, but it died in less than twenty-four hours ; when its body was opened and examined in the presence of the British Consular surgeon, the medical officer attached to the American Consulate, and the health officer of Shanghai, who each gave a certificate that the lungs and pleuræ were healthy (so there was no " Peripneumonie"), and that the lesions corresponded with those of Rinderpest, as described by European authorities.

In this connection, I would observe that this Shanghai Murrain has been variously denominated, from Peripneumonie of the French *Vétérinaire,* to death from administration of horseshoe nails. The latter assertion was made by a native practitioner in a case tried before a Chinese magistrate, who had, I am ashamed to say, a Foreign Consular official as associate. In this instance some wretched coolies were severely punished for killing their masters' buffaloes, and induced to confess they had given the nails that were found in the animals' stomachs. These buffaloes were afterwards proved to have come from premises that adjoined sheds in which cattle had died a few days previously of the Murrain. Death has also been ascribed to indigestion, caused by eating cotton cake—the staple article of cattle-food in China from time immemorial; as well as to *mal de mer* in bullocks that had been ten weeks on board ship, and sickened and died in a smooth sea.

For months the plague continued; cattle of all kinds—cows, fat beasts, working cattle, and milch and working buffaloes—died by hundreds. For some reason, the Consular officials opposed the idea that Rinderpest was present in China; and when appealed to by the Municipal Council to induce the Chinese authorities to take steps to prevent the spread of the disease, the collective wisdom of the Court of Consuls resolved that "action was unnecessary during the supposed existence of Rinderpest amongst native cattle." Some time after this their views changed, and a commission was obtained from the Chinese authorities for the municipal inspector to seize and condemn diseased animals.

In the autumn of 1872, a shipment of cattle was made by one of the steamers going to Japan; disease was known to exist amongst them, and this was pointed out to the consul of the country to which the steamer belonged, and to the Japanese consul as well. The steamer was not stopped, and as the telegraph cable between Shanghai and Japan was broken, the Japanese consul was unable to prevent the remainder of the shipment being landed in Nagasaki. In a fortnight afterwards we had news of a fatal disease amongst cattle in and about that port. For upwards of a year accounts of the ravages of this

Murrain came to Shanghai from all parts; from the neighbouring districts dead carcases were brought by hundreds for Chinese consumption; while the lairs and sheds attached to the slaughter-houses were so tainted, that cattle brought from the interior, even if healthy when they arrived, were certain to become affected, if not killed immediately.

Towards the spring of 1873 disease in the country seemed to have died out; but that the sheds were infected, and capable of conveying the disease, was evidenced by what I saw on my voyage to England in the summer of that year. A number of fat cattle were put on board for ship and passenger use; there were also several European cattle that had made the outward voyage. In five days three of the Shanghai beasts were "off their feed"; their ears were drooping; they were very feverish and costive; any dung that passed was small, round, and black—more like sheep's; this was followed by diarrhœa; and on the eighth day a beast died and was thrown overboard; others died, or were killed when first attacked. Going into Singapore harbour, one bullock had been ill for three days; it died the day we left, and was thrown overboard in the Straits just outside the harbour. On my return to China in 1874, I learnt that in the previous summer and autumn *a disease had broken out amongst the cattle in Singapore, which carried off so many, that for a time the trade of the port was paralysed from the want of draught cattle.* The evening before we arrived in Galle, a big European bullock was killed; he had not fed for three days; his ears were drooping, nose discharging, and either he or his mate in the pen (a European yearling) had dysenteric purging. During our stay of forty-two hours in Galle, four calves that had been shipped in Shanghai died, and *were thrown overboard in the harbour.* In Galle a number of Cingalese beasts were shipped, and before we arrived at Suez several of these had shown unmistakeable symptoms of the disease that had made itself so unpleasantly familiar; they were killed before it had made much progress.

I need not say that I avoided soups and all dishes in which either beef or veal was a component; and this may or may not have been the reason that I entirely escaped the diarrhœa that was most prevalent amongst both crew and passengers. The

hides of all these cattle were rolled up and landed at the port at which we disembarked.

A number of morbid specimens, taken from animals in Shanghai, were prepared and sent home by Dr. Henderson: these were examined at the Brown Institution by Messrs. Gamgee and Duguid; and coupled with the description of the disease and *post-mortem* appearances also sent by him, were considered by them as establishing the identity of the Shanghai Cattle-plague with European Rinderpest. As far as I could learn in England, the one thing wanting to prove the identity of the two diseases was its power of being propagated by inoculation. But that it has this power is shown by the following extracts from a letter lately received from Dr. Henderson:—

"By means of a piece of cotton-wool soaked in the nasal mucus, I communicated the disease to two healthy animals.

"I. Sept. 24th, 1875.—A bullock (native) died of the murrain in Hongkew, at 2 p.m. At 4 p.m. I wetted a piece of cotton with the nostril discharge (fly-blown even in that short time, the weather being warm), and pushed the wool into the nostril of a healthy native bullock. The nostril bled a little. The *post-mortem* appearances in the carcase of the dead animal were such as you and I are very familiar with. Briefly, they were: nostrils contained a purulent, viscid, blood-stained secretion; mucous lining discoloured, purple, and leaden, owing to increased vascularity and submucous blood-extravasation. Larynx and trachea, scanty exudation, as in nostrils: on surface of lining membrane, pink, purple, and red discoloration of membrane, submucous blood-extravasations numerous. A few superficial ulcers on inside of cheeks and lips; sub-peritoneal blood-extravasations. Pink, purple, and red discoloration of surface of bowel and surface of omentum between meshes. An appearance as of commencing peritonitis, without destruction of the natural gloss of the bowel or exudation. Lining of stomachs healthy, with the exception of the fourth, which was much congested, and exhibited many points of submucous blood-extravasation. Lining of gut diseased throughout. Solitary glands purple, and raised above the surface from intense congestion and exudation. Discoloration and sloughing of mucous membrane. The bowels contained

liquid fæces, sloughs, exudations, and shreds. Lungs and pleuræ healthy.

"Sept. 26th.—The inoculated bullock looks well and eats well. The cotton plug dropped out during the night of the 25th.

"Sept. 27th.—Looks well and eats well, but has diarrhœa. Pulse 58. Temp. in rectum 101$\frac{3}{5}$° Fahr.

"Sept. 28th.—Diarrhœa continues; only ate half his feed in the forenoon, and refused food altogether in the afternoon.

"Sept. 29th.—Drooping of ears; refuses food altogether. Pulse 60. Thermometer 103$\frac{2}{5}$°.

"Sept. 30th.—Diarrhœa has now assumed a dysenteric character; coat stares; ears cold and quite dropped. Pulse 46; very weak. Temp. 101°. Died at 5 p.m., or 101 hours after inoculation.

"This animal succumbed to the disease too quickly for the *post-mortem* appearances to be well developed. There was no ulceration of the mucous surfaces noted, nor any exudation of consequence. But I observed, on opening the abdomen, the usual appearance as if peritonitis had commenced. Congestion of the lining of fourth stomach and intestinal canal; and the exudation and congestion of the solitary glands, giving rise to those raised blue points on the lining of the gut which you and I have so often looked at together.

"II. October 16th.—A native bullock died of the Murrain at Pahsinjao. I made an examination of the carcase, and found characteristic *post-mortem* lesions which I need not again detail: you are familiar with them. Inoculated a healthy native cow, as before, with a plug of cotton-wool, taking care this time to avoid abrading the lining of her nostril.

"Oct. 17th.—Cow in good health.

"Oct. 18th.—Ditto. A capital feeder.

"Oct. 19th.—Ditto. Pulse 50; temp. 99$\frac{4}{5}$°.

"Oct. 20th.—Pulse 66; temp. 101$\frac{1}{5}$°. The animal shows no sign of sickness. Nose moist; coat does not stare; eating well; chewing cud; motions natural, etc., etc.

"Oct. 21st.—Slight redness of ocular conjunctivæ. No other sign of sickness. Temp. 100$\frac{3}{5}$°.

"Oct. 22nd.—Nothing new to note. Animal apparently in good health. Temp. 101$\frac{3}{5}$°; pulse 64.

"Oct 23rd.—Redness of conjunctivæ better marked. She is eating well and chewing the cud, but the temp. has risen to 103·5°.

"Oct. 24th.—Pulse 42, weak; temp. 102$\frac{4}{5}$°. Nose dry on outside. Mucous lining of nostril red. Eyes red, and watery discharge. Looks listless—food unfinished.

"Oct. 25th.—All signs of disease intensified. Nostrils discharging. Stopped feeding altogether. Temp. 103$\frac{2}{5}$°.

"Oct. 26th.—a.m., pulse 64; temp. 102$\frac{4}{5}$°. p.m., pulse 60; temp. 103$\frac{3}{5}$°; worse in every way. Motions soft and light in colour.

"Oct. 27th.—Very weak. Pulse cannot be counted on account of the feebleness of the beat. Temp. 102·1°. Died at 2 p.m.

"The *post-mortem* appearances were in this case unusually well marked. Scaly eruptions on teats and udder, not noticed during life. All mucous surfaces diseased. Congestion, blood-extravasation, exudation, ulceration. Appearance as of commencing peritonitis, etc., etc.

"Mr. B—— had four cows, all sick; three died; the survivor was treated with quinine, two drachms daily, by the mouth, at a very early stage of the disease.

"Mr. R—— M—— had a very fine milch cow and well-grown calf; both died. The calf's temperature was over 106° Fahr. Three days before death, at a time when it showed little sign of sickness, I ventured to predict the disease and a fatal termination."

In conclusion, I would remark that the chief difference between Rinderpest in Europe and China is its excessive fatality in the latter country. Out of some hundreds of cattle attacked, I can only call to mind three cases of recovery. It may likewise be noted that native cattle were as susceptible to the disease as the foreign breeds; that the mortality was the same in both, while the symptoms during life, and the *post-mortem* appearances, were usually more defined in the foreign cattle; and that a beast, the sole survivor of a shed, and which was not capable of

apparently contracting the disease, was yet in a condition to communicate it to others among which it was afterwards introduced. I have no doubt myself that the Shanghai Cattle-plague is the veritable Rinderpest of the Russian steppes; that it took its origin in China, and travelled to the West; but whether rightly designated Rinderpest or not, it is certain that it is a fearfully fatal, contagious disease. It has been carried from Shanghai to Japan, and, I have no doubt in my own mind, to Singapore also. In these days of steam communication, what more easy than for it to be taken to Java and Australia by steamers from China?—while if Ceylon and India have escaped, from my own experience they have done so more by good luck than good management. On several occasions, too, I have known cattle taken from Shanghai to the Russian possessions in Siberia; and as beef is cheap, foreign men-of-war often, when starting on a cruise, lay in a stock of live cattle obtained from the plague-tainted sheds of Shanghai; and thus, innocently enough, they are made the means of carrying the seeds of disease to the ports they visit. Even if cattle are not landed, there is always danger from the hides, or of some means of contact between the ship and the shore. As a further proof of the identity of the two diseases, I would mention that on my last outward voyage to China, lying at the same wharf in Singapore was the homeward-bound mail steamer. I boarded her, and found a very fine European bullock sick of Rinderpest, and was informed that several other beasts had died since leaving Shanghai. At my suggestion the bullock was killed, and an autopsy made in presence of the doctors of the two mail steamers, who certified that the appearances and lesions exactly corresponded with the descriptions and plates of Rinderpest found in the British Parliamentary Blue Book on Cattle-plague, a copy of which I happened to have with me."

[Mr. Keele's communication is of paramount interest and pressing importance to the eastern and southern portions of our great empire. We witnessed a most serious outbreak among the Commissariat cattle at Hong-Kong in 1860, in which hundreds of those brought from towards the Yunan province perished. The contagion was carried by troop ships, with con-

taminated cattle on board, to the island of Chusan, where the sheep and goats became infected. The malady was most destructive in the same year among the domestic buffaloes at Bangkok, in Siam. In consequence of the grave loss sustained in China in 1860, we were ordered to investigate the nature of the disease and prepare a report thereon for the British Government. Though we had not then seen the Cattle-plague, but had read of it, and were given to understand that it existed only on the southern steppes of Russia, yet we concluded that it must be this malady. The report was sent home in the same year, we believe; but it was never heard of after leaving North China, and it is now probably lying interred in dust in some official pigeon-hole. In *Veterinary Sanitary Science and Police* (vol. i. p. 318), we have endeavoured to give a complete account of the geographical distribution of this very destructive scourge, which is known to the Chinese in the North as *Ma ping* or "blood disease," and in the South as *Low peng*, or "belly sickness."]

Editorial.

THE BUILDING FUND OF THE ROYAL COLLEGE OF VETERINARY SURGEONS.

For the first time since the advent of the *Veterinary Journal*, we venture to allude to a subject which cannot but receive serious attention from those who, earnestly devoted to the welfare and promotion of veterinary medicine, are anxious to be assured that every facility may be assured for the attainment of this object. We refer more particularly to the attempt which has been made to enlist the efforts of members of the profession and others in procuring a more eligible and dignified tenement and site for our corporation than that in which it is now installed, and which, it must be confessed, is altogether unworthy of us. The time has surely now arrived when we might testify to the public that we have made some advance in our own estimation as to the position our science ought to occupy since the present quarter in Red Lion Square was fixed upon as the structure which was to represent our parliament house. Never at any time suitable either in appearance or convenience for the requirements of such an important branch of medicine, its defects in these respects have been every year forcing themselves upon us, until now it must be obvious to the least aspiring in our ranks, that the University building is utterly degrading to us and to veterinary science, and cannot do us credit in any respect.

Not only our professional progress, but our material position in the vast empire embraced under the dominion of our beloved sovereign, must mainly, if not altogether, depend upon our own efforts. Jupiter only aids those who strive to aid themselves. Unless we take the deepest interest in our own cause, and endeavour with all our force to promote the welfare of our profession, we shall never secure for it that public recognition which it so well merits, nor confer upon the community all the benefits it is capable of bestowing.

It is absolutely necessary that we should have a respectable and commodious tenement for our present and future requirements. For instructional purposes we require most urgently a well-furnished museum of comparative anatomy and pathology, as well as of instruments and appliances designed for the relief of animals from pain, or for their more efficient and humane utilisation in the service of man.

We also should have, in addition to other offices, an assembly or lecture-room specially adapted for professional meetings, and for the delivery of scientific lectures; as well as addresses to those who have the care of animals, with the view of ameliorating the condition and improving the management of the more valuable domestic creatures which render us such essential services, or cheer our existence by their genial companionship.

A building calculated to meet these requirements, and situated in a

good locality, must be expected to cost a large sum of money. Our profession is mainly composed of those whose circumstances in life are the reverse of opulent, as is manifest in glancing over the annexed subscription list, which is brought up to date. But there are others who yet stand aloof, upon whom the profession has strong claims, and who should have been among the foremost in giving their countenance to this most laudable movement. The sum subscribed is, we fear, scarcely a tithe of that which ought to be in hand in order to assure the success of the project.

We now only appeal as earnestly and forcibly as we can to those who have the interests of science and civilization, but far more to those who have humanity to animals at heart, to lend us their aid in the accomplishment of as beneficent and useful an undertaking as has been contemplated in recent times. Surely it will not be said, in the latter half of the nineteenth century, that man, in establishing and endowing magnificent hospitals and colleges for his own relief from disease and suffering, is selfishly unmindful of those creatures who associate with him in devoted friendship, and serve him faithfully even to death, but who cannot invoke in their own behalf the benefits of medical science in mitigation of their sufferings, or in the treatment of those maladies brought upon them through their toil and hardship on our account! With the greatest empire in the world, our requirements and responsibilities are proportionately great. No profession has such a mighty influence in promoting humanity to animals as that of the veterinary surgeon; that influence will be exerted successfully as he is improved, scientifically and socially. This improvement solely depends upon the facilities offered him, and the incentives to improvement placed before him. In being improved himself he will improve those with whom he so frequently comes in contact—the owners, keepers, and controllers of animals—and thus indirectly benefit the animals themselves, apart from his professional functions. But the improvement must begin with a better home for his science. Is such a home realizable? We think it should be; and if we are worthy of our cause it must be.

THE FITZWYGRAM PRIZES.

THE competition for these prizes will take place in London and Edinburgh on the 15th and 17th inst. Particulars can be obtained from the Secretary, Royal College of Veterinary Surgeons, 10, Red Lion Square, London.

VETERINARY INSPECTORS.

WE are gratified to learn that Professor Walley, Principal of the Edinburgh Veterinary College, has been appointed by the Privy Council as inspector of foreign cattle at Leith, Granton, and Grangemouth.

ROYAL COLLEGE OF VETERINARY SURGEONS.

COLLEGE FUND.

THE COLLEGE FUND COMMITTEE desire to call the attention of the members of the Profession to the Circular issued in June last, in which the President, Vice-Presidents, and Council of the Royal College of Veterinary Surgeons appealed to every member of the Profession in the United Kingdom who had not hitherto contributed a subscription towards the College Fund.

It is considered that the advancement already made in the Veterinary Profession, and in the education of Students, requires that the Royal College of Veterinary Surgeons, representing the University of our Profession, should have not only a *locus standi*, but be identified with other similar institutions.

The advantages to be derived are self-evident, viz., that the well-being of a growing Profession should be upheld by its members, and its Council enabled to carry out the provisions of the Charter with comfort and effect.

The College Fund Committee have the satisfaction to announce that with the Subscriptions already received they have been enabled to purchase £1182 15s. 10d. 3 per cent. Consols, in the names of three Trustees; this amount, added to the balance not yet invested, will make a total of £1367 2s. 5d.

The Committee, however, require a still larger sum to enable them to take action in this matter; they therefore urgently appeal for subscriptions, in the hope that they may be supported, and that additional names may be added to the List of Subscribers.

Subscriptions may be sent to the Secretary (Mr. WM. HENRY COATES), either by Post-office Orders made payable at the District Post Office, High Holborn, or by Cheques crossed "Sir Samuel Scott, Bart., and Company, London." An official receipt will be forwarded in return.

The following List of Subscribers to the Fund for building or purchasing suitable premises for the Offices of the College is complete to the present date:—

	£	s.	d.
Donation originally given by T. W. Mayer, Esq., in 1849	37	14	7
Interest thereon	27	2	6
Adlard, J. E. Esq., London	1	1	0
Arnold, Messrs., & Sons, Smithfield, London	5	5	0
Aubrey, Thos., Esq., Salisbury	2	2	0
Axe, J. W., Assist.-Professor R.V.C., London	2	2	0
Axe, Joseph Machin, Esq., Doncaster	1	1	0
Balls, Messrs. G. and Son, Brixton	21	0	0
Barford, John Davis, Esq., Southampton	2	2	0
Barker, Wm., Esq., Middlesborough	2	3	0
Batt, Hartley Thomas, Esq., London	10	0	0
Beart, Walter Jas., Esq., Kings Lynn	2	2	0
Bentley, William, Esq., Margate	1	1	0
Blackett, Oswald S., Esq., London	2	0	0
Blakeway, Francis, Esq., Stourbridge	1	1	0
Bland, Wm. Colley, Esq., Newbury, Berks	5	0	0
Broad, James C., Esq., London	10	0	0
Broad, Alfred, Esq., St. John's Wood, London	2	2	0
Broderick John, Esq., Field Cottage, Finchley	10	10	0
Broughton, William, Esq., Leeds	2	2	0
Brown, G. T., Professor R.V.C., London	20	0	0
Brown, John, Esq., London	2	2	0
Burgess, Willows & Francis, Messrs., London	5	5	0
Burrell, Messrs. T., and Son, London	10	10	0
Burt, Messrs. W. and W., Brighton	5	0	0
Carless, Messrs. J., and Son, Stafford	2	0	0
Carter, J. Shepherd, Esq., Bradford	2	2	0
Cartledge, B., Esq., Sheffield	21	0	0
Cartwright and Hill, Messrs., Wolverhampton	50	0	0
Case, E., Esq., Fakenham, Norfolk	1	1	0
Cave, George, Esq., Liverpool	5	5	0
Cheesman, J. J., Esq., Wandsworth	5	0	0

	£	s.	d.
Child, James, Esq., Hackney	5	0	0
Clark, James, Esq., Cupar Angus, Perth	1	0	0
Clark, William. Esq., Islington	3	3	0
Coates, Mr. W. H., London	5	0	0
Cole, Joseph, Esq., Stoke-upon-Trent	2	2	0
Coleman, Edward, Esq, London	2	2	0
Collings, John Jas., Esq., Plymouth	2	2	0
Collins, Jas., Esq., Staff V.S., Dublin	5	5	0
Constant, S. P., Esq., 5th Drag. Gds.	5	5	0
Cooper, Wm., Esq., Berkhampstead	5	5	0
Cooper, R. P., Esq., Lichfield	3	3	0
Cope, Alexander C., Esq., London	5	5	0
Corby, Thomas, Esq., Hackney	2	2	0
Cox, John Roalfe, Esq., London	10	0	0
Crowe, W. A., Esq., London	1	1	0
Cupiss, Francis, Esq., Diss, Norfolk	1	1	0
Cuthbert, John, Esq., Leeds	2	2	0
Death, W., Esq., Staff V.S.	1	1	0
Dray, E. C., Esq., Wandsworth	5	0	0
Elam, William Chas., Esq, Liverpool	2	2	0
Fahey, John, Esq., Nenagh County, Tipperary	2	2	0
Farrow, Wm. Hastings, Esq., London	5	0	0
Field, William, Esq., London	100	0	0
Field, William, Esq., jun., London	100	0	0
Fitzwygram, Col. Sir F. W., Bart.	210	0	0
Fleming, G., Esq., Royal Engineers, Chatham	5	5	0
Freeman, James, Esq., Hull	1	10	0
Freeman, John, Esq., Hull	1	10	0
Freeman, Joseph, Esq., Keyingham, Hull	1	10	0
Fryer, John, Esq., Fleetham, Bedale	2	0	0
Gadsden, John W., Philadelphia, U.S.	5	5	0
Gill, Samuel, Esq., Hastings	1	1	0
Goodall, Henry John, Esq., Melton Mowbray	1	1	0
Gould, George J., Esq., Southampton	2	2	0
Gorton, Charles, Esq., Whitechapel	2	2	0
Gowing, Messrs. T. W., and Son, London	10	0	0
Greaves, Thomas, Esq., Manchester	20	0	0
Greening, H. B., Esq., Buxton Hill	2	2	0
Gregory, John B., Esq., Portsmouth	2	12	6
Gregory, Thomas, Esq., Tunbridge, Kent	5	5	0
Grice, Charles C., Esq., New York	5	5	0
Hall, Robt., Esq., Stockton-on-Tees	2	2	0
Hammond, J., Esq., Bale, Norfolk	1	1	0
Harpley, M. J., Esq., Anonymous	5	5	0
Harpley, M. J., Esq., Royal Horse Guards	5	5	0
Harword, Thomas, Esq., Liverpool	2	2	0
Hedley, Matthew, Esq., Darlington	2	2	0
Hills. Osborn J., Esq., Leamington	5	0	0
Hopkin, Tedbar, Esq., Manchester	2	2	0
Howard, John, Esq., Woolwich	1	1	0
Howard, Richard, Esq., Thetford, Norfolk	1	1	0
Hunt & Parker, Messrs., Birmingham	50	0	0
James, John C., Esq., Thornbury, Gloucester	1	1	0
Jarvis, Frederick, Esq., London	10	10	0
Jones, E. Marshall, Esq., Tetbury	2	2	0
Kennedy, Thomas, Esq., Wrexham	1	0	0
Kent, W. H., Esq., London	5	5	0
King, John T., Esq., Bournemouth	1	1	0
Lambert, James, Esq., 17th Lancers	2	0	0
Lawson, Alexander, Esq., Manchester	5	5	0
Lawson, John, Esq., Manchester	10	0	0
Lepper, Messrs. H. and G. A., and Son, Aylesbury	10	10	0
Longman, Geo., Esq., Cavalry Depot, Canterbury	2	2	0
Lowe, Clement, Esq., London	2	2	0
Malcolm, John, Esq., Enniscorthy	2	2	0
Markham, J., Esq., Rugeley, Stafford	2	0	0
Martin, John Bean, Esq., Rochester	2	0	0
Mavor, William, Esq., St. Leonard's-on-Sea	10	0	0
Mavor, Messrs. Alexander and F. J., London	50	0	0
Merrick, T. J., Esq., Northampton	5	5	0
Moir, Charles, Cardiff	2	2	0
Moon, J., Esq., Kingston-on-Thames	5	5	0
Moore, James, Esq., London	5	0	0
Moore, James, Esq., jun., London	2	2	0
Moore, W. J., Esq., Junior Army and Navy Club	10	10	0
Moss, Michal, Esq., Sittingbourne	1	1	0
Naylor, M. E., Esq., Wakefield	10	0	0
Nettleship, Edward, Esq., London	2	2	0
Olver, Harry, Esq., Tamworth	1	1	0
Olver, Thomas, Esq., Truro	1	1	0
Overed, J. D., Esq., Blofield, Norfolk	2	2	0
Owles, Alfred J., Esq, Staff V.S.	1	1	0
Paton, Thomas, Esq., Army Service Corps, Dublin	1	1	0
Pearce, J. H., Esq., Whitchurch, Hants	1	0	0
Peele, Henry, Esq., West Hartlepool	2	2	0
Penhale, William, Esq., Barnstaple	1	1	0
Penhale, Wm., Esq., jun., Holsworthy, Devon	1	1	0
Price, Thomas S., Kennington Cross	2	2	0
Pyatt, Henry, Esq., Nottingham	2	2	0
Prudames, Alfred, Esq., Great Berkhampstead	2	2	0
Ritchie, James, Esq., Gateside, Kincaldrum	5	0	0
Robertson, William, Esq., Kelso, Roxburghshire	3	3	0
Robinson, Alexander, Esq., Greenock	5	5	0
Rogers, William, Esq., London	1	1	0
Roots, William, Esq., London	2	0	0
Rowe, James, jun., London	5	0	0
Samson, Frederick J., Esq., Mitcham	1	1	0
Sainty, Arthur H., Esq., Norwich	1	1	0
Simonds, J. B., Professor, Principal R.V.C., London	30	0	0
Skoulding, J. B. W., Esq., R.A.	2	2	0
Slocock, Oliver T., Esq., Carlow, Ireland	1	1	0
Smith, William, Esq., Norwich	5	0	0
Smith, George, Esq., Hanley, Staffordshire	1	1	0
South, George, Esq., London	5	5	0
Stanley, Edward, Esq., Warwick	5	0	0
Stanley, Thomas, Esq., Edmonton	5	0	0
Surmon, W. Sills. Esq., London	5	0	0
Swann, Lister, Esq., Upwell, Norfolk	2	2	0
Taylor, James, Esq., Colchester	3	3	0
Taylor, William Baxter, Rotherham	2	2	0
Thomson, George, Esq., Horncastle	1	0	0
Walker, Alfred, Esq., Rugby	5	0	0
Wallis, W. S., Esq., Halstead	2	0	0
Wells, Thomas, Esq., Bracondale, Norwich	1	1	0
Withers, Samuel Hicks, Esq., London	5	0	0
Withers, Henry, Esq., London	1	0	0
Withers, Alfred, Esq., London	1	0	0
Woodger, Joseph, Esq., London	10	10	0
Woodger, Joseph, Esq., jun.	10	0	0
Wragg, Francis W., London	10	10	0
Yorkshire Veterinary Medical Society	50	0	0

A gentleman has offered to give £100 towards the fund on condition that nine other members of the profession will subscribe not less than £100 each. Or the same gentleman will give £50 provided that nineteen others will subscribe a sum of not less than £50 each for the same purpose.

THE ARMY VETERINARY DEPARTMENT.

It can no longer be doubted, says the *Broad Arrow*, that there is a strong feeling of discontent amongst the senior members of the Veterinary Department, both in England and India, and the reasons are neither few nor far to seek. In the first place, there is no stated period for promotion, and its progress is very slow. Secondly, the pay is altogether inadequate, and the allowances, especially in India, are quite insufficient. Thirdly, while new warrants have been given to nealry all the other non-combatant branches, this department has been entirely passed over. Fourthly, the treatment regarding leave of absence which the Department receives, is not, by any means, fair.

With regard to promotion, there has scarcely been any for years past, and there is very little prospect of improvement under the present system. A surgeon of fifteen years' service is certain of the pay and rank of a major; while there are many veterinary surgeons of over twenty years' service, with only the rank and pay of a captain (not that rank is of much importance to a non-combatant), and with no prospect of promotion until vacancies occur by the retirement of staff men.

Some years ago, when veterinary surgeons were but few in number, the staff appointments sufficed to absorb the seniors; but now that they have become a much larger body, that system cannot apply. There are at least a dozen candidates for every vacancy, and if one is provided for, the others must remain *in statu quo*. This treatment of the veterinary surgeons cannot last; it is against all reason, and most unjust; for being non-combatants, they never gain any advantage for meritorious conduct in the way of pensions or special promotion.

The increase of pay after fifteen or twenty years' service is so small, that it is of little use increasing it at all; and in India it is considerably less proportionally, for the pay is consolidated, and there is no horse allowance. This is much worse than not paying the majors of artillery, because they did get contracts that nearly made up for the deficiency.

The Department has not had a warrant since 1859, and has consequently remained without even a shadow of additional advantages since that date. Is it simply because no one has represented the matter to the proper authorities? It would seem so; for had it been otherwise, they certainly would, in common justice, have granted a new warrant ere now, as, with the notorious fall in the value of money, the expenses of the service, both in England and India, are nearly double what they were ten years ago. It is probably owing to this apathy that there is the greatest difficulty in inducing good and efficient men to fill the vacancies in the Department, and were those who do join half acquainted with their future prospects in the army, they would, like the surgeons, prefer private practice.

With regard to leave, it is a well-known fact that privilege leave is constantly refused, on the ground that there is no one to do the duties; therefore, unless ill, the veterinary surgeon is allowed to remain in India, in the plains, year after year, until prostrated, simply because the

Department is kept so low in numbers. This, which is caused, as we have shown, by the diminution of inducements to enter the Service, only aggravates the case of those who belong to it. It would be but just, therefore, that apart from consideration of any claims to other improvements, some effectual arrangements should be made in order to allow of a certain reasonable amount of leave. The present state of things encourages men to adopt an irregular, but in fact the *only* means of getting leave in the ordinary course, viz., sick-leave. A veterinary surgeon must, if he takes his fair share of foreign service, spend ten years out of fifteen in India; and the cost of living in that country has increased to such an extent, that the emoluments do not compensate in any way for the loss of health and other serious drawbacks connected with an Indian climate.

It sometimes appears questionable whether the authorities are conscious of the importance of securing efficient veterinary officers of high character; for it is evident that their present position in the army is not by any means what it ought to be, considering that they frequently have very trying and responsible duties to perform: for instance, in casting and buying horses, can they always be expected to study with success the interest of Government and the pleasure of their commanding officers? Again, the matter of stable management requires merely to be hinted at. There are, in fact, many things to think about besides the mere treatment of diseases; as for example, wondering how it is that, after many years' service, the veterinary officer gets almost worse than nothing for serving his country, whereas other officers have long since been relieved from similar grievances. Many good men joined the army under the impression that they would get a far better prospect of promotion than they can look forward to, and surely it cannot be wise for the Government to allow such an eminently useful and undemonstrative body of officers to remain under a sense of their lot being hard, and that they have no friend at Court to speak a word in their favour.

INFLUENZA.

A RATHER severe form of what is vaguely designated "Influenza" is reported from some northern towns, but more especially Bradford, where the Midland, and also the Great Northern Railway Company's horses, appear to have been rather seriously affected.

TRICHINOSIS IN FOXES.

THE *Allgemeine Medicinische Central-Zeitung* mentions that in one district several foxes which were shot were found to contain in their muscles a large number of free and encapsuled *Trichinæ*.

It also alludes to an outbreak of Trichinosis at Melsungen, affecting a family of seven persons and the butcher who killed the pig. One had died and two others were dangerously ill.

TRANSMISSION OF FOOT-AND-MOUTH DISEASE TO A CAT.

THE *Wexford Constitution* of February 26, alluding to the satisfactory condition of stock in that county, as regards disease, and to the care exercised in this direction by Mr. D. C. Pallin, the efficient Government Veterinary Inspector for the district, says:—"At the Taghmon fair, on the 16th inst., there was a good show of animals, and all were particularly remarkable for health and prime quality. Here, however, a case of Foot-and-mouth disease was discovered, of a character which should be a caution to farmers who may be possessed of cattle suffering from this dangerous malady. After the business of the day's fair had been concluded, Mr. Pallin's attention was called to an animal of the feline species, belonging to the Constabulary Barrack at Taghmon, which was suffering from some disease—to the unprofessional eye somewhat extraordinary. On examination he found that the cat, which was only three months old, was suffering from a fully developed attack of Foot-and-mouth disease (*Eczema epizoötica*). The roof of the poor animal's mouth was almost quite gone, and the other portions of the body in which the symptoms develop were as much affected. There could be no doubt of the fact, as Dr. Pigott, who happened to be present at the examination, agreed in saying that it was one of the truest cases he had ever seen. It now turns out that the cat was but ten days in the barracks, and it had previously belonged to a person who had some cows suffering from Foot-and-mouth disease, and as each of the animals was milked, the contents of the teats were thrown upon a manure heap. To this the cat had access, and naturally drank as much of the favourite beverage as possible. To this, therefore, is attributed the existence of the disease in pussy; and but that it became an inmate of the police barrack before the malady increased, dangerous results might have ensued. The little incident may be a warning, as we said before, to agriculturists not to carelessly permit the milk of diseased cows to be scattered in places where it would be accessible either by cats or any other animal to which it would be a source of temptation as food."

CATTLE DISEASE ON THE CONTINENT.

WE learn from Berlin, under date of Feb. 29, that an Imperial decree has been issued, prohibiting the importation of horned cattle from Holland, Belgium, and Luxemburg, on account of the prevalence of Pleuro-pneumonia in those countries.

A telegram from Copenhagen, dated Feb. 28, says that a decree has been issued by the Ministry of the Interior, dated February 25, laying down special regulations with regard to the exportation of domestic animals from Denmark to Great Britain, for the purpose of preventing the spread of contagious disease.

THE AMERICAN VETERINARY COLLEGE.

It is somewhat strange that such an immense country as the United States of America, with its great and incessantly growing wealth of animals—many of them of excellent quality—should not, until some ten or eleven years ago, have had a school for the education of veterinary surgeons.

It is true that at Boston and Philadelphia a few self-made men, previous to that period, obtaining from the legislature of the States in which these cities are situated, charters granting them the privileges of schools, attempted to start teaching establishments; but for reasons more or less valid, these were never fairly organised. It may be said they could not exist, as there were no buildings, no clinical instruction, nor anything like a regular course of lectures—in fact, there was no semblance of a teaching school in either city, and the attempts proved to be a perfect failure; so that we may suppose no trace now remains of them.

In 1857 another attempt was made in New York, but here also was failure; and the charter then granted by this State being altered and amended, another effort was put forth in 1861, but the first course of lectures was not given at this New York College of Veterinary Surgeons until November 1864. This school appears to have been more fortunate than the others, thanks to its excellent staff, which consisted of four professors, all of whom were physicians, two of the number, Liautard and Large, being also veterinary surgeons: the first being a very distinguished graduate of the Alfort school, who was in the French army for several years, and whose name is familiar to us by his many excellent contributions to the *Recueil de Médécine Vétérinaire* and the *Annales de Médécine Vétérinaire Militaire*; and the second who has also given us several valuable papers on professional subjects. Everything appears to have been pretty well organized; there was a small hospital, dissecting room, lecture room, and a well-provided museum—so that this time it seemed as if the United States was at last to have an institution which would prove to be the nucleus of a college that would do it credit, and be a valuable acquisition to the country.

But it would seem as if there is something antagonistic in the nature of the Anglo-Saxon race to the patronage or culture of veterinary science. After fighting hard against the prejudices and ignorance of the public, though still steadily advancing, increasing its staff and extending its curriculum, the school drifted into troublous times at the end of the tenth session, in 1874. Difficulties arose among the trustees, lawsuits were instituted, and the faculty, seeing the fruit of so many years' anxious labour about to be thrown away, resigned in a body, applied for another charter, which was granted, and commenced the American Veterinary College in 1875. This can scarcely be designated a new school, but rather the other *rajeunie;* it has the same staff—with some additions—of teachers, well drilled by ten years of faithful and disinterested work; all the students have gone over to it from the other

school; and the old graduates are anxiously applying for the diploma of this establishment, which they look upon as their *Alma mater.*

So far the school appears to be a success, and there can be no doubt that under the management of Professor Liautard, who is Dean of the Faculty, and who, coming from one of the best schools in Europe, should know as well as any one the quantity and quality of knowledge needed to make proficient veterinary surgeons, this success will continue if the American public will only give the school a fair amount of patronage.

The Faculty is now composed as follows :—A. Liautard, M.D., V.S., Professor of Comparative Anatomy, Practice of Surgery, Clinical Surgery; A. Large, M.D., M.R.C.V.S., Professor of Veterinary Practice of Medicine and Clinical Medicine; Professor F. D. Weisse, M.D., Professor of General Pathology; A. W. Stein, M.D., Professor of Comparative Physiology and Histology; S. R. Percy, M.D., Professor of Materia Medica and Therapeutics; J. L. Robertson, M.D., V.S., Professor of Cattle Pathology, Veterinary Obstetrics, and Clinical Medicine; Professor F. Le Roy Satterlee, M.D., Professor of Chemistry.

The requirements for graduation are: twenty-one years of age; a certificate of three years' study of medicine, attendance on two full courses of medical lectures, the last being in the Veterinary College; a thorough English education; proper testimonials of character; and a satisfactory written and oral examination by the Professors in each of the departments of instruction.

The curriculum provides for a thorough theoretical and practical medical education. Lectures on the fundamental medical sciences, anatomy, physiology, chemistry, and the theory of veterinary medicine, surgery, obstetrics, and therapeutics, are given during a regular winter session of about five months; and a hospital has been established for instruction in the observation and treatment of the diseases incidental to the domestic animals. A free clinic is also held twice a week, which brings before the student numerous and varied forms of disease; while a chemico-physiological and pathological laboratory has been provided, wherein a practical knowledge may be acquired of the chemistry and microscopy of the animal fluids and solids in health and disease. There is also a complete pharmacy.

A notable feature in the list of text-books recommended is that only the most modern appear, and the useless obsolete manuals which are still tolerated in some veterinary schools have no place here.

We would strongly urge the American government to take cognizance of a school like this, and make it a national college for the study and treatment of animal diseases, as well as of zoötechny and hygiene.

If we may judge from what we hear and read, few civilized countries more urgently require such an institution; and humanity to animals, as well as a regard for the national prosperity, should be powerful inducements in placing the American Veterinary College on a substantial and flourishing foundation.

XUM

ECHINOCOCCUS DISEASE IN ICELAND.

ACCORDING to Finsen (*Hospitals Tidende*, December, 1874), earlier writers have very much over-stated the frequency of Echinococci among the Icelanders—one author stating that every seventh person had them; another, that they were the cause of one-fifth of all the deaths occurring on the island. Finsen had 298 cases under treatment, and is of opinion that the frequency of clinically recognizable cases is limited to one in every forty or fifty of the total population. The cause of this frequency is ascribed to the intimacy existing between the numerous dogs and the inhabitants. The statement of recent writers, that charlatans use dogs' urine and excrement in the treatment of certain diseases, is denied. Küchenmeister is also mistaken in ascribing the frequency of this parasite "to the warm temperature of the river-water, which is often used for drinking," for river-water is rarely warm, and if so, it is never drunk. The Icelanders generally ascribe the disease to a contusion which has occurred at the point where the parasite becomes developed. Although this theory is to be rejected, Finsen is nevertheless of the opinion that an external or internal stimulus is often necessary for the development of a previously latent Echinococcus. Not unfrequently they make their first appearance, or at least begin to develop rapidly, during the course of other diseases and during pregnancy. In all classes of society this parasite occurs much more frequently in females than in males, and this is probably due to the nature of their occupation. In preparing food and taking care of the cooking utensils, they are more apt to swallow the *Tænia Echinococcus* of the dog.

A CANADIAN DOMINION VETERINARY ASSOCIATION.

WE learn that an informal meeting of veterinary surgeons has been recently held in Montreal, for the purpose of taking steps to form a Dominion Association. This is to have for its object the advancement of veterinary science and the consolidation of the profession in that country. The Association being intended to constitute the Corporate Body of our colleagues in Canada, it is proposed to endow it with powers to carry out such measures as may be necessary to place the veterinary profession on a proper footing in the Dominion. The chairman was Professsor McEachran, and the secretary Mr. G. Sermon, M.R.C.V.S. We sincerely hope that this movement may be successful, as owing to the demand for well-educated veterinary surgeons, and the injury inflicted on the profession by those who are deficient in education, the whole matter of professional training should rest in the hands of a corporate body, such as we have in this country. It certainly should not be left with private and competing schools to decide.

THE PROGRESS OF VETERINARY SCIENCE.

In a very interesting and instructive address recently delivered by Colonel Sir Frederick Fitzwygram, Bart., before the members of the Portsmouth Literary and Scientific Society, on the above subject, and which was quoted from in our last impression, Veterinary Science found its claims to recognition warmly advocated, and the benefits it may confer ably set forth, as the following extracts will prove. Speaking of the history of veterinary medicine, for instance, Sir Frederick said :—

"The progress of civilisation in man has been marked by a greater degree of care for human life, by an increased desire to gain a more accurate knowledge of the laws of health, and especially of late years by what is known as 'sanitary science.' The progress of civilisation has also been marked by the greater value which man sets upon those animals which are needed for his existence, for his use, or for his comfort. In the savage, or semi-savage state of man, animals were simply hunted down or destroyed. In the civilised state of man the welfare of animals useful to man is carefully studied. Their increase in number, in individual value, and in the perfection of their respective species, as, for example, in the horse, cow, and sheep, are questions of social wealth and of vital importance to the community at large. In the increasing value of domesticated animals useful to man, and in the greater ravages of disease, as must be the case where animals more or less intended to roam at large are crowded together ; as must be the case where land increases in value, and where also population increases in numbers, and daily requires larger supplies ; in the increasing value and need of domestic animals, and in their increasing ailments, modern veterinary science has had its rise. The veterinary art, however, was not unknown to the ancients, but, like the kindred art of human medicine, it was studied in a very rude and unsatisfactory way. The first attempt to teach in England veterinary medicine on scientific principles was made by St. Bel, a Frenchman, about a hundred years ago, in the school now known as the Royal Veterinary College of London. Since that time three other schools have been established. In 1854 a Charter of Incorporation was granted to the veterinary profession under the name of the Royal College of Veterinary Surgeons. Into this body are now affiliated the four teaching schools above alluded to. A license to practise cannot be given by any teaching school, but all the students are sent up for examination before the board of the Royal College of Veterinary Surgeons, and from that board alone the student can receive his diploma. In the hundred years which have elapsed since the days of St. Bel, the veterinary profession has made rapid, very rapid, strides towards the attainment of that position to which its claims and its aims entitle it. This progress has been chiefly due to the enlightened views and striking abilities of those who were appointed as the earlier professors of the veterinary art, men who devoted their lives to its development and perfection. The public, on the other hand, have been slow to recognise the claims of veterinary science, and it was not until the recent enormous losses, produced by ignorance of the true origin of diseases, called greater attention to the subject, that the veterinary art has been recognised as second only in its usefulness to the care of human life. Under the head of veterinary science is included the art of healing, as applied to all animals useful to man. But modern ideas in veterinary as in medical practice now regard the prevention of disease as more important than its cure. In the human race this change of ideas is fairly realized. In veterinary practice it is more fully realized, inasmuch as animals, unlike human beings,

cease to be of any value unless they are sound and healthy, except in special cases, as brood mares. The cure of sick animals is not practically so important as their maintenance in health. No doubt the cure of disease is an important object, but it is only one, and certainly not the chief object of the many duties appertaining to veterinary science."

Referring to the similarities and dissimilarities of mankind and animals from a medical point of view, we find it stated that the

"Veterinary medical art differs from the human medical art in several very distinct ways. 1st. Animals can give but very little assistance to the practitioner as to the seat and nature of the disease under which they are suffering. Information can only be gleaned from the symptoms. Herein the veterinarian is placed at a disadvantage compared with the medical man; and hence greater skill in the diagnosis of disease is needed in the veterinarian than in the medical man. 2nd. In regard to the effect of medicine and treatment, the veterinarian must rely wholly on his skill in discerning their effects. He cannot ask questions of the sufferer as to the effect which his medicine is producing. For instance, we give an animal iron and other tonics. We are obliged to wait until some decided result, either for good or for the worse, is produced. In the human subject the medical man would ascertain from his patient what result was being produced. Herein, again, greater skill is needed in the veterinarian than in the medical man. 3rd. It is seldom worth while to treat very serious injuries—not sicknesses, but injuries—in animals. For instance, a horse breaks his leg. Bones will re-unite in an animal as easily as in man, but complete restoration to soundness can hardly be expected in either one or the other. A medical man is often well enough pleased if, in case of fracture of a leg, he can make his patient sufficiently well to walk about. But a horse will not repay the cost of cure unless he can be restored to perfect soundness at the walk, trot, and galop. Hence serious fractures are seldom treated. But fractures of the less important bones, and especially of non-weight bones, may be and frequently are, treated with success. But all such cases demand especial care and skill on the part of the veterinarian, as the animal, from ignorance of the nature of the treatment adopted, and from impatience, and, perhaps, irritation, is apt, unless great care is taken and the restraints most accurately adjusted, to destroy in a few seconds all the result of the care and treatment of weeks. 4th. The hindrances with which the veterinary surgeon has to contend in the treatment of disease are greater than those of the medical man. He is seldom called in in the earliest stage of the disease. This is due partly to the ignorance and to the incapacity of those in charge of animals to recognise the earlier signs of disease; partly to a stupid desire to save a fee, to wait and see if the animal will not get well of itself; and, lastly, to the inability of the unfortunate sufferer to speak for itself. Animals cannot, except by silent expression, tell their grievances or explain their sensations. Again, in stables and farms generally there is an absence of those accessories of comfort which are as absolutely essential to the successful treatment of disease in animals as in men. Good nursing is quite as essential in the treatment of animals as of man. Lastly, the veterinary surgeon, in order to be successful, must be a man of very acute observation among those to whose ailments he may be called to minister. He must be devoted to his art; he must live much among his patients. It is only by knowing the habits and expression of the various animals in health that he can hope to detect, as it is most important to do, the earlier signs of disease. Veterinary science is said by many to be in its infancy. This is hardly correct. The relations between veterinary and human medicine are so close, that most of the great strides which have been made in the medical art of late years

are applicable to, and have been adopted in, veterinary treatment. It is true that the most improved modes of treatment have been worked out by the labour of medical men ; but it is also true that veterinary science has profited as much by those discoveries as the other branch of the healing art. For instance, the violent remedies of blood-letting and depletion, which were common a few years ago in both the medical and veterinary art, have given place to more reasonable treatment in both sciences."

A very feeling and effective allusion to animal suffering and the sacred duty of the veterinary surgeon in relieving it, closes an address in every respect deserving of the highest praise, and of our most sincere thanks for the good words said on behalf of the profession.

"Animal suffering, and a future in prospect for animals, must always, I think, be present to those who make veterinary science their life's study. It is almost impossible for a man of average sensibility to observe closely and to note the painful expression (and the intelligence) of those creatures, whose structure and organisation he has to investigate before he can minister to their ailments ; it is impossible for him to witness their sufferings, to witness the brutal treatment which they too often meet with from ignorant and cruel men ; it is impossible for him to see these things without sorrow, without endeavouring to alleviate their agony, and endeavouring to ameliorate their hard fate. It is said to be, and justly said to be, the type of the highest Christian virtue to do good to those who cannot repay you, who cannot or who will not even thank you. If this be so, and it is so, then there can be no higher virtue than the alleviation of animal pain and suffering. I know of no more real satisfaction than to relieve an animal of pain, or to cure him of a disease from which he suffers as acutely as we do ourselves. Animals do appreciate our help. Of that I have no doubt. Some show their gratitude more visibly than others. Dogs, for instance, and some other animals, show it outwardly and plainly enough ; but doubtless all animals made by the same Creator feel it, not in our, but in their own way.

HORSES.

"Veterinary science and veterinary surgeons can and should do much to lighten the hard lot of animals, which toil incessantly for man ; and surely no creature stands more in need of this aid than the horse. His life is often one of continual slavery, and in many instances of perpetual discomfort. He alone, or almost alone, of all creatures is doomed to never-ceasing labour. The life of the ox, the cow, and the sheep, is one of comparative, if not absolute happiness, whilst the life of the dog is generally happy. But the horse seems to be haunted by the demon of labour and fatigue almost from his earliest years, and generally increasing to the hour of his death—to be haunted by a demon whose power to torment seems to increase as the horse becomes older and more worn. If any animal deserves, as a reward for services to man, and as a compensation for days, weeks, and years of abuse ; if any animal deserves a tranquil future, a glorious pasturage, traversed by never-failing crystal streams of water, surely that animal must be the horse. These views of animal pain and suffering, and the doctrine of an animal soul, are deeply mingled with that of future retribution to man for cruelty to the lower creation. Ruskin has eloquently said, 'Can any man account for all that happens to a cab-horse? Has he ever fairly looked at the fate of one of those beasts as he is dying? Has he measured the work it has done, and the reward it has got? Has he ever put his hands on the bloody sores through which its bones are piercing, and so looked to Heaven with an entire understanding of Heaven's way about the horse? Yet the fate of the horse

is no dream, no revelation among the myrtle trees by night. The dust it lies upon, and the dogs that eat it, are facts. And yonder happy person who owned the horse until its knees were broken over the hurdles; who sold it to a cab-owner as soon as it was blemished; yonder happy person with an immortal soul, with peace and wealth on earth, shall this happy person have no stripes? If other things are indeed reserved for him, Heaven's kindness or justice might be in question therefrom.' The Christian religion is closely allied to the science of medicine, whether human or veterinary; and its brightest, its most hallowed feature, is the humanity which it inculcates to man and beast. But the Christian religion does not vouchsafe to us any guarantee for a future state, even to those animals next to man in intelligence. The words of the Saviour in regard to the humble sparrow are too often lost sight of, whilst the expression 'of the beasts that perish,' too often gives the key-note to the dealings of man with the dumb creation. But whether animals have a future or not, it is certain that they feel pain and suffering as keenly as we do ourselves; it is certain that they appreciate kindness or cruelty; above all, it is certain, because it is consistent with the Christian religion to believe, that cruelty by man to animals will be rewarded with many stripes in the future world to which man, whether for his virtues or for his vices, whether for his weal or woe, is heir immortal."

CONTAGIOUS DISEASES OF ANIMALS AT THE SOCIETY OF ARTS.

At a meeting of the above Society, held on February 23rd, Clare Sewell Read, Esq., M.P., in the chair, Mr. George Fleming, Veterinary Surgeon, Royal Engineers, read a paper on the "Contagious Diseases of Animals: their Influence on the Wealth and Health of the Nation, and how they may be combated." Owing to its length, space can only be afforded for the following extracts.*

"Having had the pleasure of hearing Lord Alfred Churchill deliver a most instructive address, at the commencement of the present session of the Society of Arts, I was particularly struck with the reference made to the increasing demand for animal food, and the means which were being devised to import the flesh of animals from distant countries, where cattle and other food-producing creatures are abundant and cheap. But while much interested in the attempts that were made to accomplish this most important object, I could not help thinking, at the same time, that we were far too little concerned about home produce, and that we were not exerting ourselves as we ought to increase, and consequently to cheapen, our own food-productions. Neither do we appear to be at all alive to the terrible loss annually sustained in this country from the ravages of transmissible or 'contagious,' but preventible, diseases among animals which furnish us with food, or yield us essential services as beasts of burden. And neither do we seem anxious to consider, as we should, the heavy embarrassment to cattle traffic, nor the danger to health, which some of these 'catching' maladies inflict upon us—losses, embarrassments, and dangers which are yearly on the increase, and to which we calmly submit as if we were fatalists, or lived in the dark ages when medical or sanitary science did not exist. And, again, when looking to other regions for increased supplies—regions which can now furnish them

* This paper is published in the form of a pamphlet by the publishers of the *Veterinary Journal.*

because their human population is as yet too sparse to require them for their own sustenance—we are apt to overlook the fact that some day this source may fail us, either because the supplies may be required on the spot where they are created, or the very diseases which now diminish our own contributions may abolish this source, when they are introduced into these as yet uncontaminated countries.

"These reflections, which did not arise for the first time in November last, but have been impelling me for many years to an earnest study of this subject in all its bearings, made me resolve to request permission to introduce this paper before your excellent Society, with a view to draw public attention to the serious issues involved in its consideration, and, if possible, to assist in indicating the most appropriate and efficient measures to limit, or altogether suppress, the scourges of animals we designate 'contagious diseases.'

"In this resolution I was confirmed by the remarks of Lord Alfred Churchill, and also by the knowledge that the subject was quite within the scope of your Society. For though, in some of its features, it may be deemed an essentially medical or sanitary question, yet, on the other hand, it is on the whole one of vast public interest and pressing urgency, and one with which the aims of your Society are closely allied. . . . The preservation of human life from accidents of all kinds has also largely engaged your attention; and to prove that your good intentions are not limited to our own species, I may with gratitude refer to the honourable distinction you conferred upon me last year, for a paper which had for its object the preservation of the horse, in so far as the art of farriery is concerned.

"Besides all this, medical or sanitary science has pointed out that, in order to combat diseases, and especially those of a spreading kind, a most complete and efficient organization is absolutely necessary. For the invasion of contagious maladies is like that of a most wily and subtle human foe—powerful only in his subtlety and capacity to elude observation until he makes his attack. Not only this, but every step gained by him forms a new basis, from which an advance may be made in all directions. Therefore, knowing this, we require a correspondingly perfect and skilled organization to cope with him; and we may also have to control the districts he invades, even though they be our own. Here, then, the art of organization comes into play, and this is an art in which, and particularly with regard to sanitary organization, we as yet do not shine, because, I suppose, your Society has not included it among the arts it fosters and patronises. Let us hope that you may recognise it as one well worthy of your solicitude and advancement.

"The daily increasing value of many of the domesticated animals, due to the greater demand for them as nations increase in numbers and civilization, and the greater necessity for perfecting and preserving them, have been apparent for many years. Animal food has become more and more requisite for the busy physical or mental toiler, and animals have become more and more necessary as motor machines, notwithstanding the large number of non-vital machines invented by man to supplement or supplant them. Anything, therefore, which diminishes our flesh supply, or hampers it, or reduces the services we require from these animals, is a matter of great moment in the conditions under which we now live. And when, besides this, we are at the same time exposed to serious—it may be fatal—maladies, through consuming their flesh or products, or coming in contact with them, then is the question greatly increased in importance.

"I need not dwell at any length on the medical aspect of the subject, though I hail with delight a growing desire on the part of the masses to learn more pertaining to vitality—to life, health, and disease. It may, therefore, be sufficient if, in relation with what I am about to say, it is stated that

transmissible maladies may only be so in respect to the same species—that is, from horse to horse, cow to cow, etc., or to one or two allied species; or from one to every or nearly every species. We have well-marked instances of these. Again, a 'catching' disease may be so intensely virulent, that the slightest contact of a healthy with a sick animal, or even a few minutes' stay some distance from it, or near anything which has touched it or has been in its vicinity, will produce infection in almost every animal so exposed; or it may be so slightly transmissible that prolonged contact, or even inoculation with some of the fluids containing the virus, is necessary to produce the disease in only a certain number. In this respect every contagious disease has its special characters—its own individual potency and diffusibility. Some of these communicable disorders, again, are extremely fatal, and kill almost every creature they attack; while others only produce a slight and transient derangement of health. In this respect, however, they vary, malignant diseases being sometimes less deadly, and benignant ones occasionally very destructive.

"The 'catching' quality of a disease depends upon the presence of certain exceedingly minute living particles or germs—at least, for convenience' sake we will suppose it does. These are possessed of immense reproductive power, and more or less tenacity of life. Some of these specific germs possess the faculty of reproduction to such a degree, that a very few of them introduced into an animal body adapted for their reception, will, in a short time, have become so multiplied, that the whole of the tissues and fluids—it may be of an elephant—are impregnated with them. We have also diseases due to animals more or less minute, which take up their abode in different parts of the body, and give rise to particular disorders; and which again, if they obtain access to another animal, when this eats the flesh or any of the products of the one they infested, may give rise to great inconvenience, or a more serious form of disease. We have, likewise, transmissible diseases due to vegetable growths in the interior or on the surface of the body. Some of these contagious diseases may affect the entire mass of an animal, and the poison exist in the flesh, secretions, breath, etc.; or only certain organs, tissues, or fluids may be involved.

"The poison germs, parasites, or whatever the agents may be upon which the disease depends for its maintenance or multiplication, may gain access to a healthy body through the breathing apparatus, stomach, skin, a wound, etc.; and before its effects are manifest, a certain period—in some diseases pretty well defined, in others not so—generally elapses. The disease may or may not be communicable during this latent period.

"Some of these diseases are, in the present state of our knowledge, incurable; all are more or less prejudicial to the animals they affect, either by killing them outright, or, when curable, depreciating them in value, permanently or temporarily: diminishing more or less their products or their services, or rendering their flesh or products of less value, or even dangerous, as food for man or other creatures.

"Though certain diseases are transmissible from man to animals, yet a far greater number are communicable from these to man, and some of them are extremely fatal when so transmitted.

"Some of these diseases of animals are indigenous to the country, and may be developed 'spontaneously,' through unsanitary or other influences; while other of these maladies are 'exotic,' or foreign to our soil, and are, or have been, introduced from countries where they are more or less prevalent. These exotic diseases are by far the most serious, and have proved a most terrible scourge to this country; they cannot be developed here by any combination of circumstances or conditions, but depend solely for their maintenance on their contagious properties.

"A knowledge of this undeniable fact is of great moment, in connection with their suppression; for badly informed people, who fancy these can be 'generated' in different ways in this country, would also have us believe that it is useless trying to suppress them like other contagious diseases. This was the painfully erroneous notion which also prevailed when the Cattle-plague was introduced twelve years ago, and the injury the silly idea wrought we can all remember; we can also recollect how it was proved to be utterly destitute of a shadow of probability by the manner in which the Plague was eventually stamped out. The same ignorance yet prevails with regard to the exotic diseases from which we now suffer; and the baseless notions are working as much harm every year as they then did. The people who entertain such fancies, when they are not moved by interested motives, cannot know anything of the history or the nature of such maladies. . . .

"The most formidable and harassing of the exotic contagions of animals of which we have as yet had any experience, are three in number—the Rinderpest or 'Cattle-plague,' and what are commonly known as the 'Lung-plague,' and 'Foot-and-mouth' disease. The Rinderpest has made only one great invasion of this country during the present century; and then, through the most unpardonable ignorance and supineness, it wrought an amount of destruction and ruin which is absolutely appalling, when we consider the short time it was allowed to revel unchecked among our herds and flocks. In the Cattle-plague invasion of 1865 and 1866, we may set down the money loss from its ravages at something between ten and twelve millions of pounds. Indeed, it is scarcely possible to compute the total amount of damage it inflicted, as we had not very trustworthy means of arriving at the truth. Yet this is a purely contagious, and therefore a preventible malady.

"But if the Rinderpest caused such startling havoc in such a brief space, it must be confessed that the two other diseases—'Lung-plague' and 'Foot-and-mouth disease'—have been no less serious scourges; inasmuch as, owing to their less fatality and their having been for so many years domiciled in these islands, they have not attracted so much attention, though they have become none the less universal, and their ravages have been yearly on the increase.

"For reasons which will be presently alluded to, we are unable to arrive at anything like a correct estimate of the damage inflicted on the national wealth by the two scourges just named, since their introduction some thirty-six years ago. Until within the last eight or nine years, no effort was made to ascertain the exact loss they were causing; and although it is now attempted to give a statement of this loss, yet the returns cannot be accepted as affording us any more than a very faint idea of the money swallowed up by these two contagious but preventible scourges. In fact, we are almost in the dark as to the actual damage, in pounds, shillings and pence—to say nothing of the embarrassment to trade—which these two diseases occasion.

"The 'Lung-plague' is pretty well a concealed disease, and one with whose prevalence the small cattle-dealer and petty butcher are better acquainted, perhaps, than the police or other kind of inspector. Yet it has been calculated that in Edinburgh alone the annual loss from it is between £200,000 and £300,000. For the six years ending with 1860, it has been estimated that there perished considerably more than a million of cattle in the United Kingdom, the value of which must have amounted to at least twelve millions of pounds. The tables of an English Cattle Insurance Company prove that from 1863 to 1866, the death-rate from this scourge was from fifty to sixty-three per cent. annually. If we can form any judgment from these figures, it will not be too much to assert that the 'Lung-plague' costs us at the very least £2,000,000 a year.

"The malady has been carried from Great Britain to her colonies; and in

Australia it is estimated that the stock of cattle is reduced by a million of pounds annually.

"But we have no time to notice this disease further than to observe, that what with its long duration in those attacked, the slow and protracted convalescence when they chance to recover, the consecutive disorders—perhaps permanent loss of condition—the non-productiveness of the animals for months, all this makes it one of the most disastrous plagues that can afflict a cattle-producing country.

"The other exotic malady, 'Foot-and-mouth disease,' though not nearly so fatal, is yet, perhaps, a greater destroyer of the national wealth than the 'Lung-plague.' We cannot arrive at anything approaching exactitude with regard to the damage it inflicts, as a large number of the outbreaks are never reported. Little is known as to the loss incurred from it previous to 1869; but from the attempts that have been made to arrive at a proximate estimate of the destruction it and 'Lung-plague' occasioned for the thirty years preceding that date, we may infer that both maladies had cost the country at least £84,000,000. If we add to this the ravages of the Cattle-plague in 1865-6, we shall not be far wrong if we put down the damage sustained, from 1839 up to 1870, as £100,000,000.

"But the ravages of Foot-and-mouth disease have been almost yearly on the increase since then. In 1871, according to the report of the Veterinary Department of the Privy Council (which, however, cannot be relied upon, as it is certain to be below the mark), no fewer than 519,523 cattle, or 10 per cent. of the entire stock of Great Britain, were attacked. Somersetshire, however, reported 12 per cent. attacked; and it is possible that some other counties had more. In 1872 the malady was so prevalent among cattle, sheep, and pigs, that in England and Scotland the direct money loss from it was rated at the astounding sum of £13,000,000; and even this enormous figure is supposed to be under the actual amount. In Leicestershire, for example, where an attempt was made to obtain returns of the number and species of creatures affected, and where the loss on each bovine animal was put down at the low figure of £2, and sheep and pigs at 10s., it was computed that a sum-total of upwards of £340,000 would not have covered the loss in that county alone. In Cheshire, in the same year, one-third of the total horned stock was attacked—the money loss being valued at 9 to 10 per cent. of the whole head of cattle in the county. In Herefordshire, in that year also, it was ascertained that more than 35,000 cattle, 108,000 sheep, and 9,000 pigs were affected with it—the loss being estimated at £156,000. In Ireland, for the same year, though the cattle reported as diseased must have been a mere tithe of the number actually infected, the loss is reckoned at about £442,000. What the loss was in 1874 it is impossible to say, the Veterinary Department of the Privy Council having given up recording the outbreaks of the malady since 1871. It must certainly have been very great, as, in thirteen parishes around Shaftesbury alone, 10,000 cattle, or nearly one-fourth of all the stock in them, were attacked—the loss being at least £15,000 in this small district. In 1875, owing to the disease having been more widely diffused than it ever was before, the damage inflicted by it must have been considerably over eight millions of pounds. From east to west, and north to south, it raged with a violence and virulence which showed that time does not modify its intensity like some other contagious diseases. The county of Somerset alone lost £150,000 through it; while so far north as Aberdeen, the very lowest estimate shows that in this county 7731 cattle and 8954 sheep were attacked—the damage probably not being less than £65,000. Other counties, doubtless, suffered to a similar if not to a greater extent.

"These astounding losses from three imported foreign diseases, which owe their maintenance and diffusion solely to their contagious properties, will

testify at once to the immense importance of the subject I have brought before you, from a money point of view alone. Two preventible contagions, which rob the country of four, six, eight, ten, or twelve millions of pounds annually, cannot be designated anything less than scourges of the greatest magnitude.

"But we have other contagious maladies which, though they may be imported from abroad, like the three just alluded to, may yet be said to be 'indigenous.' One of these is the horrible disease 'Glanders' of the horse—which is transmissible to other species and also to mankind.

"We are in the dark as to the extent to which this dangerous malady prevails, as here also the returns of the Veterinary Department of the Privy Council are not reliable. In London, where it exists to a far greater extent than is perhaps dreamed of, it is supposed to destroy horses to the value, annually, of £5000; and in other parts of the country the loss may be set down at £20,000 more.

"The ox suffers from scrofula, and some forms of blood disease which are contagious and destructive, but are not included in the Privy Council list.

"The sheep is affected with some serious contagious maladies, but chiefly with a parasitic disease of the skin, that occasions much loss.

"It may be said that thousands of pigs perish every year from contagious diseases which are not recognised by the authorities; and we do not know the extent of the loss they occasion, nor even the nature of the diseases.

"Rabid dogs cause much destruction to property, and numbers of people die every year from Hydrophobia; yet Rabies is a terrible disease not mentioned in any of the official records of the Priviy Council.

"In fact, we are altogether uninformed as to the injury inflicted on the national wealth by many maladies which are very serious and alarming, and are yet preventible.

"We have now to consider what, under the circumstances, we require to protect the wealth and preserve the health of the country, in so far as the contagious diseases of animals are concerned.

"The prime essential of such a protection is a sanitary organization that will meet both requirements. At present this does not exist, and has never existed in this country. And yet in no part of the world has the necessity for it been more evident or more urgent during very many years. Though two of the destructive diseases we have more particularly alluded to, and which are now always with us, invaded the country some thirty-five years ago, I cannot discover that any steps were taken, up to 1865, to check their ravages, limit their extension, or properly ascertain their nature and mode of diffusion.

"Had the sanitary science or medicine of the lower animals been what it might and should have been in 1839, the country would have been spared the invasion of these diseases; as they were well known on the Continent, and had been recognised as serious contagions years before they were introduced to us. Our insular position should have insured our exemption from them had veterinary science been on a proper footing, and competent to afford advice as to the measures necessary for their exclusion from our shores, or extinction when they did appear. As it was, they were not recognised, and were permitted to spread with all the rapidity and virulence that marks the course of newly introduced contagions of this description. Up to 1865, the two diseases were allowed to exist, and to be carried about, evidently without let or hindrance. In that year, however, the introduction of the Cattle-plague caused a great panic, which, in 1866, led to suppressive measures being adopted for the extinction of that malady; and these measures also had the effect of pretty well extinguishing the 'Foot-and-mouth disease' and 'Lung-plague.' The sharp lesson taught by the 'Cattle-plague' directed attention to the damage wrought by the other diseases, which began

to prevail again as soon as the restrictions were removed and fresh importations of contagion allowed. A Veterinary Department of the Privy Council was formed during the Cattle-plague panic; and this undertook the control, more or less, of these maladies. For various reasons, which are not far to seek, however, neither the prevalence nor the virulence of contagious diseases appear to have been modified to any appreciable extent; indeed, since 1866, the country has been more severely scourged than before that year. The attempts made to limit the destruction of these diseases have failed, simply because it was impossible they could succeed; while the endeavour to carry them out has been attended with serious inconvenience to the country, and heavy expense.

"Any one possessing the slightest acquaintance with these contagious diseases, with sanitary science, the traffic in animals, and the character of many of those who own or deal in these (for conscientious scruples appear to be abolished when such maladies prevail), could have foretold that the attempts would not only have been utterly futile, but that they would also prove onerous and unsatisfactory in every way.

"In the first place, those most concerned were not informed as to the nature and more important features of the diseases to be combated; in the next place, the carrying out of the measures was left to the local authorities, who, perhaps energetic in the extreme in one county, may have been as supine and negligent in another; and, thirdly, there were very few competent men employed to carry out the necessary sanitary operations.

"The latter was, perhaps, the most serious omission; for instead of the authorities entrusting such important duties as the tracing and controlling outbreaks of disease, and guarding against its extension by every means which science and intelligence can alone suggest, this was left chiefly to policemen, who, when in doubt as to the nature of the malady an animal was suffering from, called in a veterinary surgeon or 'cow-leech' (for qualifications are not essential) merely to settle that point. The members of the veterinary profession must, as a body, disclaim all responsibility for the enormous losses the country has sustained for so many years. Indeed, if they could lift up their voice, they would complain bitterly of the neglect with which their science and their services have been treated by the country during all this time of national loss and embarrassment.

"Veterinary science has been allowed to struggle into existence, or perish in the attempt to maintain itself, in Britain, as if it was of no value or consideration. And in 1865 and 1866, during the reign of the Cattle-plague, its graduates were exposed to the grossest abuse and indignity to which a profession has ever had to submit in any land, merely because they spoke truthfully, and, declining to pander to the mistaken notions of those who ought to have known better, they pointed out the real nature of the malady. And yet they had at last to be called in to extinguish that pestilence, when physicians, amateurs, empirics, policemen, and local authorities had failed to cure or check its spread. No sooner had they done so, than they were once more placed in the background, where they will remain, in all probability, until the same heterogeneous forces have broken down in their futile endeavours to rid the country of the scourges which now afflict it.

"It only remains to say that the measures now in force, and the machinery at work in carrying them into operation, will never effect the object with which, we presume, they were devised—the suppression of contagious diseases, until an efficient sanitary organization is established, in which well trained veterinarians, under Government direction, and independent of local influences, shall play the chief part, and be held responsible for the sanitary condition of their districts: advising the local authorities on important questions, watching the movements of cattle, keeping a careful eye on fairs and markets, super-

intending personally the more essential operations needed for the extinction of a contagion when it suddenly manifests itself, and directing the police while carrying out instructions in sanitary affairs, instead of being directed by these functionaries. Until this is done, which is not now done, we shall never rid ourselves of these scourges, nor save ourselves from loss and embarrassment. On the contrary, we may expect to see them yearly on the increase, and have perpetually exemplified the painful results of a 'penny wise and pound foolish' policy.

"It is a grave mistake to suppose that the exclusion of foreign animals alone would rid the country of its contagious maladies. Foreign countries suffer less from them than we do, as these diseases are not so prevalent in them, and are more energetically dealt with. If our importations from the Continent were stopped to-morrow, we should scarcely be better off; because, for want of proper measures and proper means, we cannot extinguish the disease germs, which are either active or latent in every county, every district, and nearly every cowshed and pasture throughout the land. If we had to export to the Continent, I fear our neighbours across the Channel would find us indeed dangerous importers in the matter of contagious diseases.

"What we require is the sanitary service I have mentioned; and this, besides rendering other benefits of a most important character than those pertaining to contagious diseases, would scarcely cost us a fraction of the money loss we now suffer. In addition to this, we require a more energetic, responsible, enlightened, and efficient central administration. There should be no permissive legislation for the control of contagious diseases by local authorities, who often have no interest in their exclusion and suppression; but more frequently have every inducement to wink at their existence, in order that they may obtain credit for keeping down county rates. Whatever measures may be necessary should be universally applied throughout Great Britain and Ireland, and if possible with more rigour to those parts which export.

"I have no faith in port inspection for the detection of contagious diseases, and am convinced that it is a fallacy. It is impossible for any inspector to detect disease in a latent form, or to discover if apparently healthy animals have herded with those which were sick; and unless he can do this, in very many instances his services must be worse than useless.

"The details which are absolutely necessary to be observed in the suppression or prevention of contagious diseases, I cannot touch upon here. Suffice it to say that they are not observed in the country at present, and they can only be carried into effective operation by the sanitary organization I have indicated.

"With regard to the preservation of the public health, so far as its relation to animal diseases is concerned, this also must be left to the management of such an organization. None but the best-trained veterinarians can protect the public in this direction; and until the inspection of meat and milk, dairy, stable, kennel, and pasture, slaughterhouse and butcher's stall, are placed under their supervision, the public must incur risk and suffer loss.

"Such are the remarks which I have ventured to bring before you on one of the most important subjects connected with sanitary science and the welfare of our country. I have endeavoured to do so without blaming unjustly either governments, professions, or individuals. Governments are swayed in such matters as this by their advisers; and these, doubtless, advise to the best of their knowledge. In direct proportion as their knowledge is exact, and as their advice is adopted by governments, so does the public benefit. But conflicting interests may often baffle statesmen, and render them hesitating, and inclined to adopt temporising or half-measures. In the presence of such contagious diseases as have scourged this country during this century, half-measures are worse than useless, and incline the public to lose faith in sanitary

science altogether. The stern fact must be looked in the face, that for ten years imperfect attempts, whose only recommendation was that they were cheap, have not only failed to diminish the prevalence of these maladies, which have rather increased, but they have been a source of great embarrassment to trade, and have materially tended to increase the price of food. We appear to avoid looking at things as they really are, and to shut our ears to the truth. Political, class, or party considerations should have no place in such a question as this. The loss and embarrassment may first fall upon, and be most severely felt by, the breeders, feeders, and owners of animals, but these are quickly shared by the whole nation, and the result becomes a public calamity.

"No country in Europe has, possibly, sustained greater loss during the last thirty-five years than our own; yet no country, perhaps, should have suffered less. With the finest breed of horses, and the most magnificent herds and flocks in the world, and a teeming population, whose health and wealth are largely centred in these, we have almost entirely neglected to protect them from the ravages of diseases of home and foreign origin, by forgetting to foster and encourage that science which alone can accomplish this. That neglect has cost Britain and her colonies untold millions. Until it is acknowledged, the omission repaired, and veterinary science placed in its proper position, so that it can yield its benefits to the full, we must be prepared to record annually the heavy damages to health and wealth inflicted upon us through the influence of the contagious diseases of animals.

"At one time the British army suffered the greatest losses from disease among its horses. Through the enlightened influence of those who commanded it, veterinary science was allowed to come into play; and now disease is scarcely known, while the efficiency and durability of the animals are vastly increased. This is merely because there is an organization of trained men, and a competent central authority to guide and direct them. What holds good in the one case must hold good in the other. It only requires a patriotic resolution, enlightened views, and a well-organized service, to preserve the wealth and protect the health of the country, so far as the domesticated animals are concerned. Surely these can be forthcoming!"

The discussion which ensued was shared in by Messrs. Hunting, Webber, McComber, Botly, Hill (Wolverhampton), and Captain Craigie.

The Chairman, in proposing a vote of thanks to Mr. Fleming, said he had never listened to a paper with more satisfaction. He had frequently stated that this question was one of great national importance; and though people might say that the statements and estimates made were fabulous, in his opinion they were all well founded, and the loss occasioned by these diseases was much greater than most people had any idea of. A great deal of nonsense was talked the other day at a meeting at Exeter Hall, and even in that Society he had not expected to find such an endorsement of views which practical farmers had advocated for the last twelve or fourteen years. He could bear testimony to the truth of Professor Gamgee's prophecy, which was made at the time of the Cattle-plague, and was to the effect that if that plague were not got rid of, they would never have so many cattle in the country again: nor would they. There were, however, two points in the paper as to which he must beg leave to reserve his opinion. First, with regard to diseased meat, he thought people might be unnecessarily frightened, because fire was a

great destroyer of any infection, and when meat was thoroughly cooked, it was not quite so bad as people imagined. Capt. Craigie knew the Highland shepherds were accustomed to eat Braxy mutton from sheep which happened to die, and they were a very healthy race of men; and more than that, at the time of the Cattle-plague, to his certain knowledge, the men employed to bury the diseased animals for months and months fed themselves and their families on beefsteaks cut from cattle which were killed, or had even died from the plague. He asked several gentlemen, of high standing in the medical profession, to watch the results; and to his great surprise they found that the men rather improved in condition than otherwise. The question of milk was more serious, because it was frequently taken without being cooked; but when Foot-and-mouth disease occurred, almost all secretion of milk was stopped, and that which was produced was so offensive that people would not take it. It was very difficult to know what to drink; they were told not to take spirits because they were poison, nor beer because it contained alcohol, while the Rivers' Pollution Commissioners said there was hardly a drop of pure water to be found anywhere; so that really they were in a great difficulty to know what to drink at all. The other point on which he reserved his opinion was as to the laudation of veterinary science. They had much to thank the profession for, no doubt; but there was a good deal to be said against them. It was only within the last few years that the diseases of cattle, sheep, and pigs had been thought of in veterinary colleges; attention being directed solely to horses. Not many years ago, the gentleman who was supposed to be at the head of the profession in England said the Foot-and-mouth disease came in the air, and the head of the Veterinary Department of the Privy Council in Dublin said that Pleuro-pneumonia was caused by the way in which cattle were kept in Norfolk, in covered boxes and well-littered yards. On the other hand, Mr. Fleming said that no combination of adverse circumstances would create it without contagion. Thirty years ago an Act was passed providing that in the present year all private slaughter-houses in London should be abolished, but the trade interests mastered science, and Dr. Brewer obtained a committee which made a report, from which one would imagine that a slaughter-house was the most healthy and delightful place on the face of the earth. The Act had consequently been repealed, and a long lease again given to private slaughter-houses. If Paris could be supplied with meat from an abattoir outside the walls, he thought half a dozen public slaughterhouses would be quite enough for London; and when people talked of the impossibility of bringing dead meat from Deptford to Smithfield and other parts of London, it was quite sufficient answer to point to the wonderful importation of fresh meat from America, which had been referred to. Mr. Webber said he had seen Pleuro-pneumonia in 1842 in Cheshire; and no doubt he had, but it was not known in this country before 1839, though it had existed on the Continent for more than a century. Virgil had described the Cattle-plague, but it was not known here until 1845, and again in 1865. It had been kept out of England by the "silver streak of sea," and it

might still be kept out with due precautions. In answer to Mr. McComber, he would say that the Food Committee of the Society had for a long time been investigating methods for importing fresh meat; but from what was now said it seemed as if the question had solved itself. In conclusion, he repudiated the idea that farmers desired protection, or to check the importation of food; they only wanted to keep out disease.

The vote of thanks was passed unanimously.

THE RELATION OF MICROCOCCI TO ERYSIPELAS.

BY LUKOMSKI.

(*Virchow's Archiv*, 1874, cx.).

ACCORDING to Lukomski, the microscopical examination of the skin of an erysipelatous region showed that where the process was beginning or extending the lymphatics were always filled with numerous micrococci, but where it was stationary or retrograding these organisms were absent. In one case, in which the erysipelas was extending downwards, the upper edge of the wound contained no micrococci, while there were abundance of them in its lower edge. Lukomski endeavoured to produce erysipelas experimentally in animals, either by the injection of fluids containing bacteria under their skins, or by bringing putrid matter containing bacteria in simple contact with a healthy wound. In the first case, in which the fluids, though containing bacteria, were not putrid, rapidly spreading phlegmonous inflammation was set up in the subcutaneous tissues and in the cutis itself, and it was found that the micrococci rapidly multiplied and diffused themselves into the neighbouring lymphatics. Where infection took place through an open wound, inflammation followed, which exactly resembled erysipelas in man. The lymphatics were invaded by the micrococci just as in the other experiments, and they were always found most numerous at the edge of the inflamed skin where the process was still extending. The direction in which erysipelas spreads seems to be determined partly by the course of the connective-tissue fibres, partly by the lymphatic vessels, and partly by the influence of gravity, by which the infecting substance tends towards the lowest point. Dr. Lukomski has been led by his experiments to form a decided opinion in favour of a connection between erysipelas in the skin and the immigration of low organisms into it, and he believes that the extension of the inflammation depends on their previous development in the tissues, since the micrococci can be detected outside the inflamed parts. He has been unable to determine whether they are carried from the surface by their own movements, or by means of wandering cells, or in some other way into the lymphatic vessels, nor can he explain their disappearance as the inflammation subsides.

Reviews.

BOTANY. By Professor Bentley, F.R.S. London, 1875.

The study of Botany is of far greater importance to the veterinary surgeon than it is to the practitioner of human medicine; simply because many of the animals which come under his care live partly or entirely on vegetables, and their health and condition depend, to a great extent, upon the nature and quality of the plants or grain they consume.

Though this interesting branch of science is, therefore, so important and essential in the education of the veterinarian, yet, strange to say, it is only within a very brief period that it has obtained a place in the school curriculum; and even now its study is limited to a portion of a few weeks. It may truthfully be said, that the student who goes up for his first examination before the Examining Board of the Royal College of Veterinary Surgeons knows almost next to nothing of botany, and certainly little that would be of any service to him in the practice of his profession. Beyond a trifling knowledge of structural botany, few, if any, of the candidates can venture. This is not so much the fault of student or botanical teacher, as it is of those, whoever they may be, who control veterinary education in this country; and we have not unfrequently thought, considering the manner in which botany is taught at present, that it would be an advantage to drop it out of the list of subjects altogether, and allow the few days now allotted to it to be devoted to another branch of study which is, like all the others, half-starved for time.

Until this is done, however, or the period allowed for its teaching is much extended, the student must endeavour to acquire as much elementary knowledge of structural botany as will enable him to pass an examination, and in this, as in other subjects, a manual is necessary. Manuals of science, *in usum studiosæ juventis*, now abound; and their introduction into elementary schools, for the instruction of boys and girls, marks a great advance in ordinary education. So it may happen that, in the course of years, in addition to three R's which the candidate for admission to a veterinary school must know something of, a smattering of the rudiments of science may be expected. A little book on Botany, by Professor Bentley—one of the manuals of elementary science published by the Society for Promoting Christian Knowledge—is well worth the student's attention. Its extremely low price (one shilling!), its remarkable conciseness and clearness, its illustrations, and the addition of questions and answers at the end of each section, render it well adapted for the object with which it was written. We might venture to add, that if the candidate who presents himself for examination in Botany knows as much of the subject as is contained in this handy and neat little volume of one hundred and twenty-eight pages, he need not fear being remitted to a few weeks' further study of this very necessary part of his professional learning—at least until a better acquaintance with it is demanded.

Abstract of the Proceedings of the Royal College of Veterinary Surgeons, Veterinary Medical Societies, etc.

ROYAL COLLEGE OF VETERINARY SURGEONS.

Special Meeting of Council, held March 14th, 1876. Col. Sir Frederick Fitzwygram, President, in the chair.

Present—Professors Brown and Axe, Messrs. Field, Harpley, Moore, Cartwright, Fleming, Dray, Woodger, Talbott, Hunt, Greaves, Moon and Coates.

The Secretary read the notice convening the meeting.

The minutes of the preceding meeting were read and confirmed.

The Secretary announced that the following letters had been received:—

1. Mr. G. Balls, Mr. Cox, Mr. John Lawson, and Mr. Mayer, regretting their inability to attend the present meeting.

2. From Professor Tuson, accompanying a presentation to the Museum of half of a specimen of calculus from a horse, with its history and analysis.

On the motion of Mr. Dray, seconded by Mr. Fleming, a vote of thanks was accorded to Professor Tuson for the presentation.

3. From Captain Gregg, relative to the fraudulent conduct of Mr. R. P. Lord.

Mr. Fleming said the Supplemental Charter would give the Council power to strike such persons off the register.

4. From Professor M'Call, stating that Mr. Mitchell, Stranraer, who obtained the Highland and Agricultural Society's Certificate in 1850, was desirous of knowing on what conditions he could receive the diploma of the R.C.V.S.

The President said this was an ordinary case, and the rules of the College must be complied with. If Mr. Mitchell wished for the diploma of the College, he must be examined like an ordinary student.

5. From Professor Simonds, recommending that the Pass Examinations commence April 3rd and stating that six or seven nights would be occupied in Class B, and two or three in Class A.

The recommendation was agreed to, and the fixing of the date for the Scotch examinations was left to the examiners in Scotland and the principals of the Veterinary Schools.

6. From Professors Williams, M'Call, and Walley, relative to the Education report.

On the motion of the President the Report of the Education Committee was taken as read, and the Council proceeded to consider the various clauses *seriatim.**

Clause No. 1 was agreed to.

On *Clause No.* 2, Mr. Moore expressed his opinion that every student should enter a school in October.

Professor Brown said a considerable number of men entered the London School at the beginning of both the Christmas and the Summer terms.

Professor Axe thought it would be premature to attempt to define at what periods the examinations should take place. The first thing to do was to consult the convenience of the schools, and the Council could then make such arrangements as would be agreeable to the schools.

The President thought that under this Clause there would for some years

* See last number of the *Veterinary Journal*, p. 221.

to come be at least two or three examinations yearly. Eventually, no doubt, the schools would compel the students to enter at one particular date.

The Clause was agreed to, as was also *Clause* 3.

Clause 4. The President said, if Professor Williams' view were adopted a man might come up for his first, second, and third examinations at the same time.

Mr. Harpley said that would enable a very clever man to neglect his first terms and only work hard at the end.

Professor Brown thought such an arrangement would be an incentive to idleness during the first part of the session. It was a wrong principle to show any consideration for rejected men.

Professor Axe considered that it would encourage a system of cramming which would do no permanent good.

On the motion of Mr. Harpley, seconded by Mr. Dray, the Clause was agreed to unaltered.

Clause 5 was agreed to.

Clause 6. Professor Axe said Professor Simonds was of opinion that Toxicology was an advanced subject, and should come in the Third Examination. He himself held the same view.

Mr. Harpley said the Committee could not arrange the subjects so as to have Toxicology in the Third Examination.

Professor Brown said he could not agree with Professor Simonds' view.

The President said "Practical Toxicology" had been placed in the Third Examination in deference to Professor Simonds' opinion.

Professor Axe said to make Toxicology "practical" would necessitate slaughtering a number of animals for the Examiners.

Mr. Harpley said the word was suggested by Professor Simonds himself.

Professor Brown said he did not regard Toxicology as more difficult than Chemistry or Botany, and suggested that it should be altogether omitted from the Third Examination.

Mr. Fleming thought it would go with Chemistry very well. Veterinary Examiners in the Third Examination might easily ask, in the ordinary course of questioning, what were the lesions produced by poisoning, and the symptoms.

After some further discussion it was decided that Toxicology be allotted to this Examination.

Clause 7. The Secretary said it was very important that there should be three students in the room at the same time; and the Committee therefore decided that the Examination in this division should only be for forty minutes.

Professor Axe thought one Examiner would be sufficient for the Anatomy Table.

Mr. Harpley said the students objected to any one Examiner having the power of rejection.

Professor Brown thought a better arrangement would be to have one table for Anatomy, one for Physiology, and one for Histology.

Mr. Hunt said that he always settled on a piece of paper beforehand what questions he would put to a student, and he then put his private marks opposite them.

Professor Axe seconded Professor Browne's suggestion.

The President said at the meeting of the Committee the prevailing feeling was in favour of more tables, and only one Examiner at each; but the number of tables was reduced so as to give two Examiners to each, in deference to the views of the students with regard to being rejected by a single Examiner. He himself never attached much weight to that feeling. A rejected student would complain whatever arrangement was made; and he thought, with Professor Brown, it was better to increase the number of tables.

Mr. Harpley said that would give sixty minutes to the Examination.

Mr. Greaves said he should be glad to dovetail an amendment to this clause, making a difference between the student who had served three years' apprenticeship to a Veterinary Surgeon, and the student who had seen no practice. He proposed that a man who had served an apprenticeship might have his Second and Third Examinations at this period of his studies, and would suggest the addition of some such words as the following: "But if such student possesses an indenture showing that he has served an apprenticeship of not less than three years to a M.R.C.V.S., it shall be competent for him to undergo his Second and Third Examinations at this period of his studies, and if such Examinations are satisfactory, to receive his diploma."

The President quite agreed that there was a strong feeling throughout the profession that a difference should be made between the student who had seen practice and one who had not; but if Mr. Greaves' proposal were agreed to, the former would have to be examined on subjects on which he had had no lectures or training.

Mr. Harpley said the Committee had considered the point, but had been unable to arrive at any satisfactory conclusion.

Mr. Greaves asked if the teachers could not allow such a student to attend the lectures for those who were coming up for the Third Examination.

Professor Brown said in that case he would be required to attend two lectures at the same time, as frequently two or three were being delivered at the same hour.

Mr. Greaves thereupon withdrew his amendment, but asked if it might not be arranged that no candidate should be eligible unless he could show a three years' indenture.

Mr. Moore questioned whether it was advisable to examine the students on practical matters at all, as they had no chance of acquiring practical knowledge at the colleges.

Mr. Hunt said there were cases enough at the London College for any man to acquire a practical knowledge if he wished.

Professor Brown's proposal was then agreed to.

Clause 8. Mr. Harpley said it was not intended that an examiner should be precluded from asking for written descriptions of cases connected with "other domesticated animals" than the horse.

Professor Brown proposed the omission of "Practical Toxicology" in both cases.

Mr. Fleming seconded the proposal, which was agreed to.

The President suggested that it would improve the wording of the Clause if it were altered to, "And practically in the soundness and diseases of horses, including writing of certificates, etc.,—and also practically in the diseases of other domesticated animals."

The Clause as so amended was then agreed to.

Clause 9 was agreed to.

Clause 10. Mr. Greaves asked if it was intended that a rejected student should pay for each re-examination. The President said that was the intention.

Professor Axe said he was deputed by Professor Simonds to say that he considered a rejected pupil should be allowed a second examination free of charge, and that two guineas should be charged for a third, in the event of his being a second time rejected. He himself thought three guineas was too much for a re-examination.

The Secretary said the College of Surgeons and the Pharmaceutical Society had found it necessary to charge for re-examination, as otherwise the students did not pay proper attention after rejection.

Professor Axe said the penalty would not fall upon the careless student but upon his parent.

The Secretary said, after an experience of fourteen or fifteen years he had never heard a student complain of the examination fee.

Mr. Fleming said the Royal College could not afford to give an examination for less than three guineas, and he thought the knowledge that he would have to pay for every examination would make a student more careful.

Mr. Hunt proposed the adoption of the Clause.

Mr. Field seconded the motion.

Professor Axe proposed, as an amendment, "That the sum of two guineas be substituted for three guineas for each Re-examination."

The amendment was lost, and the original motion was carried.

Clause 11. In this Clause a verbal alteration was made so that it might read, "Such Rules and Regulations as Council may have made, or may make, etc.," and the Clause was then agreed to.

Clause 12. The President said this was a bye-law, or it was intended that it should be a bye-law; therefore it was desirable to take the power as it might be found convenient, whereas if they limited themselves to three or four times a-year, they could not alter it. There was, however, no intention on the part of the Council to alter the three examinations a-year. The Clause was agreed to.

Clause 13. The President, in reply to a question by Professor Brown, said, the meaning of the Clause was that there must be eight Candidates for the first examination, or else there would be no examination; eight for the second, or no examination; and eight for the third, or no examination. This ought to be a regulation, and not a law, and the object could be effected by a regulation under Clause 12. He therefore moved that Clause 13 should be struck out.

Mr. Fleming seconded the resolution.

This was agreed to.

An alteration was then made in Clause 12: "That Examinations be held at such times and under such regulations as Council shall direct;" on the motion of the President, seconded by Mr. Dray.

Clause 14 and *Clause* 15 were agreed to.

The President moved "That the President, or, in his unavoidable absence, a senior member of Council deputed by him, do attend and supervise the examinations once at least in the year, at London, Edinburgh, and Glasgow." The only doubt he had in doing so was whether the word "supervise" was not rather objectionable to the Examiners; but his object was to secure uniformity of examination at the three places. It was quite essential that some one should be present at the whole three.

Mr. Greaves suggested the substitution of the word "superintend" instead of "supervise."

Considerable discussion took place on the question whether or not the President should be remunerated. Ultimately the motion was agreed to, and a further motion by the President "That an allowance be made to the President for the performance of his duty," was seconded by Professor Brown and carried by a majority of the Council.

The President said, as the members were so nearly balanced, he thought it better that the subject should stand over for further consideration at another meeting.

The President then said he was afraid the recommendation with regard to the assessment of the value of the different subjects could not be carried out, though he thought something of the sort was desirable.

Professor Axe suggested the substitution of "Pharmacy" for "Writing Prescriptions."

Mr. Fleming thought it would be well to insert "Pharmacy" after "Materia Medica."

Professor Axe said he saw no objection to "Pharmacy" being taken in conjunction with Materia Medica and Botany.

It was then agreed to alter the wording of the 6th Clause as follows: "That at the first examination a student be examined in Materia Medica, Pharmacy and Botany (one table, two examiners), etc."

On the motion of the President, seconded by Mr. Dray, the clause relating to the assessment in value of the various subjects was struck out.

The President gave notice of his intention to propose to the Council, "That notice be given to the examiners that when they examine less than five on any day after the first, half fees will be paid;" but after some discussion the notice was withdrawn.

The Secretary read the Prize Committee's Report. The Committee had met the Veterinary Committee of the Royal Agricultural Society, but nothing definite had been settled.

A letter was then read from the President enclosing regulations for the competition for the Fitzwygram Prizes. Dr. J. B. Sanderson, Professor Bentley, and Mr. Robertson were appointed Examiners.

On the motion of Mr. Fleming, seconded by Mr. Dray, letters of condolence were directed to be sent to Dr. Sanderson, Dr. Taylor, and Professor Voelcker, expressing the Council's sympathy with them in their recent domestic afflictions.

A letter was read from the Liverpool Veterinary Medical Association, forwarding a copy of a resolution passed at a meeting of the Association on the 11th inst., "That in the opinion of this meeting the proposed expansion of the Charter is inadequate to the wants of the profession, and that the Council be requested to withdraw it, and to take such steps as will secure by Act of Parliament the privileges to which the profession is entitled."

Mr. Greaves said he was present at the meeting, and gave a full explanation of the difficulty the Council experienced in getting such a clause as the meeting was anxious to have to prevent quacks from practising the veterinary art; but he could not change the views of those who held that if the Council applied for a Supplemental Charter at all such a clause should be inserted; and if they could not get it in the Charter, they should get it in an Act of Parliament. The Association was willing to help the Council in money matters, in order to accomplish their object.

The President said it was natural that those who had not considered the matter as much as the Council, should feel that they ought to try for more. The Council had the advantage of knowing that the Privy Council would not have granted the power sought for in the proposed Clause 14, and further, that no penalty imposed by a Charter can be enforced at law. Only an Act of Parliament can give force to a penal clause; but an Act, in the desirability of obtaining which the Council quite agree, can be sought for at a future time.

Mr. Moon and Mr. Dray were appointed the Dinner Committee, and the proceedings then terminated.

CENTRAL VETERINARY MEDICAL SOCIETY.

THE ordinary meeting of the above Society was held on Thursday, March 2nd, at seven p.m., at 10, Red Lion Square, the President occupying the chair. Messrs. Jas. Fraser and Geo. South, jun., were balloted for and duly elected Fellows. Mr. G. South, sen., produced a cystic calculus removed from a seven-years-old bay gelding a month ago. The following

history was given :—When first seen the horse was constantly micturating, passing occasionally large quantities of urine, and afterwards there was a constant dribble. Mr. South made an examination per rectum, and felt a large, hard substance in the bladder, which was otherwise empty and much contracted. There was also some ulceration round the prepuce and glans penis. An operation for the removal of the substance being sanctioned, the horse was duly prepared ; it was then cast on the off-side, and being assisted by Mr. Roalfe Cox, a sound was passed with some difficulty as far as the perinæum, and an incision made ; this was enlarged four different times. A hand being introduced in the rectum to assist removal by adjusting the calculus, this was withdrawn, the wound sutured, and the animal allowed to rise. The operation was performed under chloroform, and was almost bloodless. The case has done well since—the wound being nearly closed, and only allowing a small quantity of the urine to escape. The passage of the catheter "up" the urethra was difficult ; but from the wound it could be readily made to pass down, or even direct into the bladder. The calculus was whitish coloured, somewhat smooth, and egg-shaped in form ; it measured about seven inches by five, and weighed eight ounces.

Mr. Roalfe Cox testified to the great care shown by Mr. South in the operation ; two essential features of interest in the case being the difficulty in passing the catheter, and the bloodless nature of the operation itself.

The President believed the constant dribbling would constrict the opening at the prepuce, and gave an instance of a case in the human subject, in which a catheter was required in ordinary micturition for some twenty-five years, followed then by lithotomy and its discontinuance.

Mr. Roalfe Cox observed that lately, while in conversation with a well-known surgeon, he learnt that such cases were more frequent than was generally supposed, and that they were not always traceable to calculi or stricture, but were often the result of atony of the bladder from not being sufficiently emptied.

A photograph of the calculus was exhibited and presented to the Society by Mr. South, who also brought another morbid specimen—a ruptured stomach from an aged chestnut mare. This animal, when first seen, was very uneasy, and sweating in different parts of the body ; there was a small pulse, and attempted vomition. She partook of water when offered, but appeared unable to receive it into the stomach ; this was obvious from the distention of the œsophagus. When she lay down in the stall the water was returned through the nostrils. Ordering occasional doses of oil to be carefully given, he left her for about two hours, and on returning found she had just expired. In making a *post-mortem* examination, he observed a blush through the course of the intestines, with infiltration and thickening generally ; fæcal matter floated in the abdomen ; there was a large rupture in the great curvature of stomach, and, commencing from the pyloric orifice, there was strangulation of about a yard of the duodenum. The rupture, in Mr. South's opinion, was due to the same.

The discussion, which was well maintained, mainly centered in the question as to whether rupture preceded death and vomition, or took place at the death of the animal ; Mr. Howard asserting there could not be vomition after rupture, and that if the rupture existed for any length of time previous to death, there must be evidence of Peritonitis ; whereas in the autopsy of such cases there was none found.

The majority of the Fellows appeared to dissent from his views.

Mr. Roalfe Cox produced a cyst measuring about four inches, composed partly of bone mixed with fibrous tissue, and which had been found in the meshes of the umbilical cord of a nearly fully developed, but dead fœtus of a cart mare ; the cyst then contained a glairy fluid.

Mr. Howard had seen a similar case in a mare that had foaled, the cyst being passed with the foal; its size was that of a large cocoa-nut, and was filled with a yellowish-coloured gelatinous fluid. He regarded it as a misconception, and that shown by Mr. Cox as an ossified portion of placenta; but with this opinion Mr. Cox differed, as this was the first time of pregnancy.

Votes of thanks were accorded Messrs. South and Cox for furnishing the specimens, and for the former's presentation.

Present, ten Fellows and one visitor.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE forty-sixth quarterly meeting of the Liverpool Veterinary Medical Association was held in the Medical Institute, Hope Street, on Friday evening, February 11th, the President, Mr. George Morgan, in the chair.

There were present Messrs. Heyes, Wilson, Lawson, C. W. Elam, Hutcheson, and Duff, Liverpool; Greaves and Faulkner, Manchester; Woods, Wigan; Storrar, Chester; Barnes, Malpas, and the Secretary.

Communications were read from Messrs. John and Alexander Lawson, Manchester; Howell, Rochdale; M. J. Harpley, Royal Horse Guards; W. Lewis, Crewe; W. A. Cartwright, Whitchurch; William Elam, and John Kenny, Liverpool.

After the minutes of the preceding meeting had been read and confirmed, Mr. Hutcheon was proposed, seconded, and unanimously elected a member of the Association.

The President then read his address upon Veterinary Politics :—

GENTLEMEN,—The position of President, however honourable it may be, is not without its drawbacks—one of which is the great modesty of the members. It is a difficult matter to get them to come to the front and introduce some matter for discussion. This should not be. If members would only get into the habit of making notes of the various cases they meet with in their every-day practice, marking the changes that take place under various modes of treatment, and the different terminations, and then relating them to their brother practitioners, they would not only benefit themselves, but the Society; for the giver of information is equally benefited with the receiver, and I believe our meetings would be much better attended, and, if necessary, we might have them much oftener. Many useful thoughts are often lost to ourselves and the world in general by not being secured at the moment they flash across the mind—as it is sometimes impossible, try what we will, to recall them.

Being short of an essayist for this evening, I have taken the liberty of addressing you on the question of the Charter which has lately been promulgated by the Council of the Royal College of Veterinary Surgeons.

Before proceeding to consider the new Charter, I hope you will bear with me while I make a few remarks about the one at present in existence.

Towards the beginning of the present century the first application for a charter was made to incorporate the College at Camden Town, which had been established for a few years; but the petition of the promoters was very summarily dismissed by the then Lord Chancellor, Lord Eldon, with the curt remark, "You shall not have a charter; the time has not yet come for that."

Things then went on for a length of time with very little change, although there were many men in the profession who saw that a change of some sort was necessary.

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The President believed the constant dribbling would constrict the opening at the prepuce, and gave an instance of a case in the human subject, in which a catheter was required in ordinary micturition for some twenty-five years, followed then by lithotomy and its discontinuance.

Mr. Roalfe Cox observed that lately, while in conversation with a well-known surgeon, he learnt that such cases were more frequent than was generally supposed, and that they were not always traceable to calculi or stricture, but were often the result of atony of the bladder from not being sufficiently emptied.

A photograph of the calculus was exhibited and presented to the Society by Mr. South, who also brought another morbid specimen—a ruptured stomach from an aged chestnut mare. This animal, when first seen, was very uneasy, and sweating in different parts of the body ; there was a small pulse, and attempted vomition. She partook of water when offered, but appeared unable to receive it into the stomach ; this was obvious from the distention of the œsophagus. When she lay down in the stall the water was returned through the nostrils. Ordering occasional doses of oil to be carefully given, he left her for about two hours, and on returning found she had just expired. In making a *post-mortem* examination, he observed a blush through the course of the intestines, with infiltration and thickening generally ; fæcal matter floated in the abdomen ; there was a large rupture in the great curvature of stomach, and, commencing from the pyloric orifice, there was strangulation of about a yard of the duodenum. The rupture, in Mr. South's opinion, was due to the same.

The discussion, which was well maintained, mainly centered in the question as to whether rupture preceded death and vomition, or took place at the death of the animal ; Mr. Howard asserting there could not be vomition after rupture, and that if the rupture existed for any length of time previous to death, there must be evidence of Peritonitis ; whereas in the autopsy of such cases there was none found.

The majority of the Fellows appeared to dissent from his views.

Mr. Roalfe Cox produced a cyst measuring about four inches, composed partly of bone mixed with fibrous tissue, and which had been found in the meshes of the umbilical cord of a nearly fully developed, but dead fœtus of a cart mare ; the cyst then contained a glairy fluid.

Mr. Howard had seen a similar case in a mare that had foaled, the cyst being passed with the foal; its size was that of a large cocoa-nut, and was filled with a yellowish-coloured gelatinous fluid. He regarded it as a misconception, and that shown by Mr. Cox as an ossified portion of placenta; but with this opinion Mr. Cox differed, as this was the first time of pregnancy.

Votes of thanks were accorded Messrs. South and Cox for furnishing the specimens, and for the former's presentation.

Present, ten Fellows and one visitor.

JAMES ROWE, JUN., *Hon. Sec.*

LIVERPOOL VETERINARY MEDICAL ASSOCIATION.

THE forty-sixth quarterly meeting of the Liverpool Veterinary Medical Association was held in the Medical Institute, Hope Street, on Friday evening, February 11th, the President, Mr. George Morgan, in the chair.

There were present Messrs. Heyes, Wilson, Lawson, C. W. Elam, Hutcheson, and Duff, Liverpool; Greaves and Faulkner, Manchester; Woods, Wigan; Storrar, Chester; Barnes, Malpas, and the Secretary.

Communications were read from Messrs. John and Alexander Lawson, Manchester; Howell, Rochdale; M. J. Harpley, Royal Horse Guards; W. Lewis, Crewe; W. A. Cartwright, Whitchurch; William Elam, and John Kenny, Liverpool.

After the minutes of the preceding meeting had been read and confirmed, Mr. Hutcheon was proposed, seconded, and unanimously elected a member of the Association.

The President then read his address upon Veterinary Politics:—

GENTLEMEN,—The position of President, however honourable it may be, is not without its drawbacks—one of which is the great modesty of the members. It is a difficult matter to get them to come to the front and introduce some matter for discussion. This should not be. If members would only get into the habit of making notes of the various cases they meet with in their every-day practice, marking the changes that take place under various modes of treatment, and the different terminations, and then relating them to their brother practitioners, they would not only benefit themselves, but the Society; for the giver of information is equally benefited with the receiver, and I believe our meetings would be much better attended, and, if necessary, we might have them much oftener. Many useful thoughts are often lost to ourselves and the world in general by not being secured at the moment they flash across the mind—as it is sometimes impossible, try what we will, to recall them.

Being short of an essayist for this evening, I have taken the liberty of addressing you on the question of the Charter which has lately been promulgated by the Council of the Royal College of Veterinary Surgeons.

Before proceeding to consider the new Charter, I hope you will bear with me while I make a few remarks about the one at present in existence.

Towards the beginning of the present century the first application for a charter was made to incorporate the College at Camden Town, which had been established for a few years; but the petition of the promoters was very summarily dismissed by the then Lord Chancellor, Lord Eldon, with the curt remark, "You shall not have a charter; the time has not yet come for that."

Things then went on for a length of time with very little change, although there were many men in the profession who saw that a change of some sort was necessary.

At length they asked the Governors of the Royal Veterinary College to renew their application for a charter, in order to secure for the graduates of that school something that would distinguish them from the common herd of farriers; but the Governors having probably a lively recollection of the rebuff they met with on a former occasion, refused the application of the veterinary surgeons, stating that they saw no necessity to petition the Crown on behalf of the College, but that every facility would be given to veterinary surgeons to procure an Act of Parliament to prevent the grievances complained of. So they set to work, and a charter was granted in 1844, incorporating them, under the style or title of the Royal College of Veterinary Surgeons.

Strange as it may appear, still it is true, that the Charter was no sooner obtained than a petition was lodged, by the Governors and teachers at the Royal Veterinary College, with the Home Secretary, for its withdrawal, on the ground that it had been obtained without their knowledge.

Such is a little, but not all, of the inconsistencies played by the Camden Town College.

The Charter having been obtained, great things were to be done; the profession (for now we were a profession) was to be changed as with the stroke of a magician's wand, empiricism and quackery were to be banished, and only those who were well educated and duly trained for the profession allowed to enter—for even in those days there was a talk not only of a preliminary, but a practical, examination before entering College.

The Council having been constituted, proceeded to frame bye-laws for its guidance, and amongst others enacted one which became as famous in records of the profession as the recent Slave Circular of the Admiralty. I allude to the apprenticeship clause, which brought them into open rebellion with the schools; and no wonder that it should do so, seeing it put a dead stop to the examinations—few, if any, of the pupils at that time being in possession of indentures; but I need scarcely say it was suspended.

One would have thought the Council would have turned its attention to procuring a Bill to carry out the intentions of the Charter for the benefit of the profession: but no—they commenced quarrelling amongst themselves about shadows, until one of the schools got hold of the reins and held the profession for a period of nearly twenty years in a state of stagnation, where in all probability it would have remained had it not been for the establishment of Veterinary Medical Associations, which drew the different members of the profession together and afforded them an opportunity of expressing their opinions on the state of the profession; which they did with such effect that the sound reached Red Lion Square, and resulted in the institution of the preliminary and practical examinations.

These examinations are all right so far as they go; but they ought to be more strictly carried out, especially the preliminary examination, which should include something of a practical nature before a young man enters the College; and I think the examiners for the preliminary ought to be appointed by the Council.

I should not insist upon an apprenticeship, nor would I accept indentures as a proof of knowledge, but would put the intending pupil to some test, leaving him at liberty to acquire his knowledge how he might: but have it he must.

Some will no doubt be ready to say the schools would not stand this, and would rebel. It is just possible they might, but this should not deter the Council from doing what is right; they do possess the power of regulating the education of the pupils, and if at present schools object to what is right and for the good of the profession, it is now strong enough to establish a school of its own; and as nine-tenths of the pupils are influenced by members as to

which school they will attend, they possess the power of influencing the exchequer of the rebellious ones.

But my opinions on this matter may be considered too radical; so I shall reserve them till some other opportunity, and proceed to say a few words about the new Charter.

One half of this precious document is made up in arranging a change of name and the election of fellows.

The name "Royal University."—I doubt very much whether this name is appropriate, as I find a University to be defined "as a universal school, in which are taught all branches of learning, or the four faculties of theology, medicine, law, and the arts or sciences;" or "an assemblage of colleges established in any place, with professors for instructing students in the sciences and other branches of learning, and where degrees are conferred."

Now I doubt very much whether we come up to either of these standards; and a change of name will not benefit either the profession or the public. The same may be said of Fellow: when you go to attend a case, it will not be asked, Are you a fellow or only a simple member? but Can you cure the animal?

Then we have the election of these Fellows: how is this to be done? The Council have the power to elect the first batch—not more than five per cent. of the whole body. Now at the present time we have about 2150 members on the register. Say for the sake of argument that the Council fixes the first number of Fellows at 100, which is a little under the mark—are they then to divide the nominations equally amongst them? If they do, there will be about three to each, who will immediately recommend that number of his friends as fit and proper persons to be made Fellows on the payment of the initiation fee.

Now, I contend this principle is wrong. Merit, and merit alone, ought to entitle one to this honour, if it be an honour. Then, what is more amusing still, those who follow and have to undergo an examination are expected to pay a higher fee; although I fail to see who are to be the examiners or on what subjects they are to be examined.

No doubt the self-elected hundred will determine this point.

I now come to Clause 10. In the discussions in Council this seems to have been adopted without a murmur. Yet I consider it to be full of import to the great body of the profession. It reads thus:—

"At the end of ten years from the date hereof, no member of the said University, save and except the present members of the said Council, who shall not be a Fellow of the said University, shall be eligible to be a member of the Council or to serve as a veterinary member of the Board of Examiners."

This appears to be about the most selfish clause that could have been inserted in this or any other charter; and he who draughted such a clause must have been devoid of conscience. It is in effect saying to the body of the profession, After ten years, if you do not pay the money and become one of us, you are for ever banished from the pale of our educated society, and lose the right which you at present possess of aspiring to become a Veterinary Examiner, or even a member of Council. But not so the present members of Council; they are duly qualified for these important posts.

Clause 11.—Voting papers is a step in the right direction. If properly carried out it would tend to make the Council more of a representative body. Twenty-one out of thirty-one members is rather a large proportion for Middlesex and Surrey.

Clause 12.—This would be an improvement, but not what it might be; the Council meetings might, with benefit, be held in other places than Red Lion Square. I lately heard a respected professional brother express an opinion

that the Council should hold their meetings in the different large towns—or, as he expressed it, take their show about so that all might have a chance of seeing it. It is doubtful whether he would be very much edified ; but it would at any rate save the provincial members, who expend a considerable sum in the shape of railway fares.

Clause 13 requires careful consideration, but if carried out would be beneficial.

Clause 14.— Assuming the title, the Council quietly drop this clause, simply because no charter which Her Majesty can grant could enforce it. An Act of Parliament is required ; and an Act they ought to contend for, as this is the most important of the whole. Other European countries make provision for the protection of veterinary surgeons who are duly qualified ; in this country the other professions are protected, and why should not we be?

I consider that the present proposal is unworthy the support of the profession, and that, if persisted in by the Council, the profession ought to petition the Home Secretary to refuse it.

The Secretary read communications bearing upon the subject from Messrs. Harpley, Kenny, Lewis, and Cartwright.

Mr. Thomas Greaves said that in the Council he had upon several occasions voted against the majority, and he did not stand up in the Association as a thick and thin supporter of the Charter. At the same time, he thought there was much in the proposed scheme that was worth striving for. He had strenuously advocated the retention of Clause 14, but was met with the argument that it was not practicable to introduce it at present with any hope of success. The annual meeting being held in Edinburgh once in three years would conciliate the Scotch schools, and be but a becoming compliment to northern practitioners.

The constitution of the present Council is unfair to the profession—two-thirds of the members hailing from within a few miles of the Metropolis, whilst provincial veterinary surgeons are represented only by nine or ten members ; and under no circumstances would the latter be able to carry a resolution in the Council, if opposed by the Metropolitan men. Again, the Camden Town school sends no less than four members to the Council; and the influence these gentlemen are capable of bringing to bear upon the votes recorded at the annual meeting by newly-fledged Veterinary Surgeons gives undue power to that school, by ensuring the return to the Council of these or their party's nominations. Election by voting papers will destroy this system, and enable provincial veterinary surgeons to vote for the men they would like to represent them. He believed, and was supported in that belief by some of the best men in the profession, that the time had arrived when it should stand without the aid of its elder sister, and that all examiners should be selected from the veterinary profession.

He did not think much importance attached to whether the profession was to assume the new and high-sounding name of University, or to retain its older and better-known appellation—for it is to the man and his attainments that the public look, and not to his title or diploma.

He strongly advocated the necessity for an apprenticeship, and was often astounded to hear professors, and indeed some others, say that the best students did not usually come from amongst those who had seen practice under a veterinary surgeon. These gentlemen considered that a student should first obtain his science, and afterwards his practical knowledge ; he strongly dissented from this view, and was convinced that the lad who did not learn to go about a horse as a horseman in his youth *could not* do so when he was a man.

Mr. Storrar understood that the teaching at some of the colleges was defective, and that the students were not rendered as proficient as they ought

to be; if there was a lack of interest in their work displayed by the teachers, the students would naturally become careless and inattentive.

Many of the examiners, too, he thought unfit for their duty, inasmuch as they hold erroneous and antiquated notions upon certain forms of disease; and the students are compelled to make themselves conversant with these notions in order to suit the examiners, and are afraid to express the opinions taught at the schools. He quite coincided with Mr. Greaves' remarks as to the necessity for a young man obtaining his knowledge of manipulating horses and cattle before he went to college; if left until his scientific studies were completed, he would be more likely to point to a lame hock with his umbrella, than to satisfy himself of the nature of the lameness by skilful and patient manipulation of the joints. He considered that the annual meetings of the profession ought to be occasionally held in Manchester, Liverpool, or one of the other provincial large towns.

Mr. C. W. Elam considered the title of veterinary surgeon should be confined to properly qualified men as a guarantee to the public; he advocated election of members of Council by voting papers, and supported Mr. Greaves' opinion, that all examiners should be selected from members of the profession. He believed it essential for a youth to make himself thoroughly acquainted with the expressions of our dumb patients, and to acquire a methodical and expert habit of handling them; these he could not obtain after he left college without being ridiculed, by even ignorant persons, for his clumsiness; whilst at college the teaching on this head, in his day, was deplorably imperfect, and he had no hesitation in saying that a student could learn more of the practical part of his business by a six months' apprenticeship with a veterinary surgeon than during the whole period he spent at a teaching school.

Mr. Woods fully endorsed all that had been said upon the necessity for an apprenticeship, and stated that when at college the student who was thought by the teachers to be the best of the year actually measured a horse on the croup to determine what height he was.

Mr. W. C. Lawson also deprecated the excessive deficiency in practical knowledge which prevailed amongst the majority of newly diplomatised Veterinary Surgeons: to such an extent as to bring discredit and contempt upon the profession by even coachmen and carters. He considered that the proposed charter would benefit but little without the retention of Clause 14.

Mr. Heyes thought that before the profession took steps to prohibit some good, sound, and respected practitioners from retaining the title of veterinary surgeon, it should endeavour to make graduates of the colleges more proficient in practice.

Mr. Barnes supported the principle of compulsory apprenticeship, and also the proposed system of voting by papers.

Mr. Reynolds condemned the proposed extension of the Charter as weak and paltry, and feared its obtainment might postpone the passing of an Act of Parliament which would benefit the profession. It appeared to him that the advantages, if any, would, by the expansion of the Charter, benefit the members of Council and their friends to the exclusion of the general body of veterinary surgeons.

Mr. Hutcheon considered the election by the Council of Fellows was very unfair, and that younger men should be required to pass an examination and to pay higher fees in order to obtain a fellowship diploma. He thought a youth who had chosen the veterinary profession should, as early as possible, acquire a knowledge of chemistry and physiology.

Mr. Faulkner would go in for a reform of the whole structure, as it was rotten; he would have the Council a representative one; at present it was virtually a self-elected body, and those in power could return who they

wished. He for one should object to prepare for an examination and to pay fifteen guineas for a fellowship diploma, when the process would place him only in the same rank with self-elected men. He regretted Clause 14 had been expunged from the proposed Charter.

Mr. W. A. Wilson thought veterinary surgeons should be protected against quacks and empirics; and unless the clause which could give that protection was retained, the Charter was not worth having. He would not allow a student to matriculate who could not produce an indenture of apprenticeship.

The President having replied upon the points discussed, Mr. Reynolds moved a resolution:—"That in the opinion of this meeting the proposed expansion of the Charter is inadequate to the wants of the profession, and that the Council be requested to withdraw it and to take such steps as will secure by Act of Parliament the privileges to which the profession is entitled."

Mr. W. A. Wilson seconded the resolution.

Mr. Greaves said that before the resolution was voted upon, he wished it to be understood that there was little chance for a good statutory enactment to be passed whilst the constitution of the Council remained as it was, and anticipated that the working of the proposed measure would result in a change in the constitution of the Council.

The resolution was then put to the meeting and carried *nem. con.*

Mr. Greaves requested that the opinion of the meeting should be taken upon two questions, which, though not bearing exactly upon the Charter, were of importance to the profession. The first was, Whether the Board of Examiners should consist only of veterinary surgeons?

The voting was eight for and two against.

The second was, Whether it is desirable for students to serve an apprenticeship for at least two years before matriculation?

The voting was eight for and two against.

Upon the latter question there was some irregular subsequent discussion; the two dissentients were supported by several members who had voted "for," in the opinion that a practical examination would be better than an indenture.

The usual votes of thanks were proposed and acknowledged.

RICHARD REYNOLDS, *Hon. Sec.*

SCOTTISH METROPOLITAN VETERINARY MEDICAL ASSOCIATION.

THE annual general meeting of this Association was held on March 1, in the London Hotel, Edinburgh. Mr. Balfour, Kirkcaldy, occupied the chair. There was a small attendance, and letters of apology were received from, amongst others, Principal Williams, Principal Walley, and Professor Brandford. The following gentlemen were admitted members of the Association:—Mr. John Aitken, Edinburgh; Mr. Storrie, East Linton; Mr. Boyd, of Melrose. The Treasurer read the statement of accounts, from which it appeared that there was a balance of £20 5s. 3d. to the credit of the Society.

The Chairman then delivered the opening address. He said: "In taking the chair to-day, I must thank you most cordially for the high honour you have conferred on me by electing me your President. Although I am aware of my inability to fill this chair in such an efficient manner as has been done hitherto by the many prominent members of the profession, I trust, however, that with your co-operation and support, the interests of our association, and of the profession generally, will not suffer at my hands. In order to bring about more satisfactory results, I might be allowed to say that a more regular attendance at our quarterly meetings would be very desirable; the attendance

of members, and more especially those in town, during the past year having been anything but satisfactory. When country members arrange to leave their practice and come to town for the purpose of attending these meetings, it is surely within the power of gentlemen resident in town to put in an appearance as well. And while on this subject, I might say I am only expressing the opinion held by all country practitioners, that when discussions upon unusual cases are to be brought forward, it is always interesting to hear the opinions of those gentlemen connected with the Veterinary Colleges—opinions which, formed as they are upon the basis of greater technical knowledge and a larger and more varied experience, must always be of great service to the profession. There has been considerable discussion of late in regard to the extension of the period of study at our Veterinary Colleges. For my own part, I will not presume to say how long a period is necessary; but I am of opinion that it is not in the power of the most intelligent and industrious student to make himself fit in two sessions to stand the test of a thorough examination in all the branches of his profession. I am sure the veterinary profession, and indeed all those interested in agricultural matters, will welcome the announcement by the Government of the intended extension of the Pleuro-pneumonia rules to Ireland. There can be little doubt, I think, that in a very large majority of cases of Pleuro-pneumonia breaking out amongst Irish cattle after being landed at Scotch and English ports, the seeds of the disease have been sown before the animals were embarked, and the principle of compulsory slaughter must to a great extent be rendered ineffectual, if numbers of Irish cattle are to be allowed to be introduced into our Scotch and English herds. (Hear, hear.) I must apologise for taking up the time of the meeting with these remarks, especially as I intended to confine myself to two cases that have come under my observation, and shall be happy to hear your opinions upon them. The first case I have to relate is that of a five-year-old cow, purchased by a farmer from a dealer. She was said to have been "at her time" of calving, but five weeks elapsed before she dropped, after which she did well; but strange to say, she never gave a single drop of milk. The udder and teats were perfectly healthy, and as soft as a glove. As the price of the cow was £24 10s., and the calf given back to the seller, making the actual price £26 10s., it was considered a hard case for the purchaser to keep her at that price as a milker, for which purpose she was bought; she now being of no use but for feeding. The difference in price for the latter purpose was very different from the price paid as a milker. My friend Mr. Borthwick, having paid me a friendly visit six or seven days after this cow had calved, I took him along with my son to see her, and they were of the same opinion as myself, that she would never give any milk, which has turned out too true for the purchaser. This was the third calf that this cow had had, and I have been informed that she milked well on the two previous occasions, and was never known to have had any disease whatever, and at present she is in perfect health. The next few remarks I have to make are upon a pig,—a breeding sow two years and six months old. She had two litters previously, and was sent to the boar, shortly after the second litter was weaned, and served. A fortnight afterwards the owner again observed her in heat. She was at once sent away, and served by the same boar a second time. In due course she gave birth to three young ones, all healthy, but would not allow them to approach her. The consequence was, they all died of starvation. However, in another fortnight she presents her owner with another litter of eleven in number, to which she took fondly, and brought them all up.

Mr. Robertson, Kelso, said that with regard to the education of the veterinary student the Council had the subject presently under discussion, and very considerable alterations were proposed to be made. He thought they needed alterations. They must keep advancing. Mr. Balfour had remarked that the vete-

rinary student could not be made properly qualified as a veterinarian within the period which they understood it took for that, and what was required by law, namely, two sessions. The majority of students took more ; even when they did, it was very doubtful if they had acquired sufficient information upon those branches of veterinary science which the Corporate Body exacted information upon. He thought they were now in a position to exact something like a very strict preliminary or matriculation examination. It was a considerable number of years since the schools adopted the preliminary examination, and he thought it might be made more stringent with perfect safety and benefit to the veterinary profession. He saw no reason why the veterinary student should not be more highly educated than was expected of him in regard to those preliminary examinations. The period that might be required to study for the veterinary profession was likely to be at least a half longer than what had been formerly, although the question was not definitely settled. Mr. Balfour had referred to the operation of the Contagious Diseases Animals Act. Certainly the majority of those who had taken any interest in their working were thoroughly satisfied that the extension of the Pleuro-pneumonia rules to Ireland was absolutely necessary. He did not think they could expect to reap the full benefit that was desired from the operation of those Acts until some uniform, well-considered, prohibitory measure applicable to the whole country was brought into force. He did not think that local authorities should have the power to regulate the operation of those Acts in the manner they had done. They certainly had been benefited by the Act largely in regard to Pleuro-pneumonia. That disease was not now so prevalent as before the passing of the Act. With regard to the other epizoötic diseases, such as Foot-and-mouth disease, it was very provoking to find that, while some counties put in force restrictive measures, others did not. They would frequently find that the restrictive measures of one county were rendered quite inoperative by the adjoining county or counties putting on no such restrictive measure. He did think the Government, or those who had the framing of these Acts, had not acted up to the scientific information in regard to the length of the period of incubation of Pleuro-pneumonia. They stipulated thirty days, and after that time had elapsed the owner might shift his animals where he chose. The owner might do anything he liked. Now, he had a case within the last fortnight, in which eight weeks elapsed from the slaughtering of the animals to the disease again appearing. He thought they should remove all skins of slaughtered animals. The Privy Council, on the strength of their medical advisers, gave a very curious delivery on the matter recently. They said that the disease could only be propagated from the living animal, which was contrary to the scientific evidence of the whole of Europe. In regard to the curious case of the cow to which Mr. Balfour referred, he could not venture an opinion without seeing the cow.

Mr. Baird remarked it was quite right to have properly educated veterinarians, but here, he said, were young men who had got a first-class education and studied at the college for three years—here was a Government appointment open, and he was appointed. He got £100 a year. Was that a great inducement to a man of high education? He thought the Government should give a little more inducement to young men seeking such appointments.

Mr. Robertson observed they would get men to do anything according to the pay they gave them. If they gave £40, they would get a £40 man. If the Government did not pay for them, they would not get the best men. The value of animal life had increased very much, and the public were more willing to pay for thoroughly qualified men. With regard to the education question, he would say that along with a literary education they must combine thorough practical instruction. Unless the two went hand in hand, it

was no use. Many men who entered the profession from the college did not take into consideration the requirements for veterinary work. Some became so thoroughly disgusted with the work, that they were not to be found now in the profession, and he had known men of high education fail.

Mr. Cunningham thought it was too much to ask young men to be examined in anatomy, and pass their first examination in a few months after they had commenced to study. He did not think students were able for it, and have a thorough knowledge of the subject. He thought they should have at least three winter and two summer sessions of study. With regard to the Pleuro-pneumonia rules, he always thought it was very stupid to make the Act apply to Scotland and leave out Ireland. Moreover, he thought the Act was not well drawn up. He thought the main object of the Act was to eradicate disease throughout the country, and if the local authorities kept that more in view they would effect their purpose better. He thought there should be a stop put to giving compensation for every animal that was slaughtered in a byre, but that the local authority should give full compensation at the outbreak of the disease for the first two or three cases; as when the disease was fully established in a byre it was useless to give compensation, for the disease would run its course.

Mr. Baird thought compensation was a great inducement to keep the disease on. He did not think that byres were sufficiently inspected. They should have a veterinary inspector for the town.

Mr. Robertson observed it was never intended that anybody but veterinary practitioners should be inspectors.

A general conversation followed on one or two diseases prevailing in particular districts.

Mr. Robertson mentioned he had had in his district some cases of mange, not of the ordinary type, and one or two cases in which horses died from fibrinous clots in the auricle.

Mr. Baird mentioned that influenza among horse had been pretty prevalent recently.

A vote of thanks having been given to the Chairman, the members afterwards dined.

ROYAL AGRICULTURAL SOCIETY.

At the Monthly Council Meeting, held on March 1st, the Hon. W. Egerton, M.P., Chairman of the Veterinary Committee, reported that the Committee had revised the statement of members' veterinary privileges in accordance with the terms of the recent arrangement with the Brown Institution, and they recommended that the statement of these privileges, as revised, be published in the forthcoming number of the *Journal*.

With reference to the proposed veterinary scholarship, the Committee were unable to make any report, as the meeting of the directors of the Highland Society, at which the matter was to be discussed, did not take place until that day.

Dr. Burdon Sanderson attended the meeting of the Committee on the previous day, in order to explain his views in detail as to the mode of conducting the proposed scientific investigation into Pleuro-pneumonia. He proposes (1) to purchase eight apparently healthy test animals of different ages and sexes, and to keep them at the Brown Institution for three months. If at the end of that period none of the animals develop symptoms of Pleuro-pneumonia, they may be deemed uninfected with that disease. (2) After the above-mentioned test-animals are shown to be probably uninfected with Pleuro-pneumonia, he will endeavour to obtain possession, by purchase, of

one or more animals infected with that disease, and, with the sanction of the Privy Council, to keep it or them alive for the purpose of endeavouring to infect the test-animals by means of contagium conveyed from the diseased animal to the Brown Institution. (3) In addition to these inquiries, a series of pathological investigations into Pleuro-pneumonia will be prosecuted by Dr. Yeo, of King's College, under the direction of Dr. Burdon Sanderson. (4) Dr. Burdon Sanderson also proposes to utilise some of the test-animals during their probationary period for experiments into Foot-and-mouth disease.

The Committee recommended that a sum of £250 be placed to the credit of the Committee of the Brown Institution for the purchase of the test-animals, their keep, and other necessary expenses of the investigation. They also recommended that the offer of Professors Simonds and Brown to assist Dr. Burdon Sanderson in procuring the test-animals, and otherwise in promoting the objects of his investigation be cordially accepted by the Council. This report was adopted, after Mr. Egerton had explained that scientific investigations must be carefully made to have any value, and that therefore some considerable time must elapse before the Society could expect a definite report upon the investigations into Pleuro-pneumonia.

Jurisprudence.

EXTRAORDINARY TRIAL.

At the Holbeach County Court, in December last, an extraordinary horse cause was re-tried, in which no fewer than sixty witnesses were summoned, and which gave rise to considerable interest in the locality.

This was an action brought to recover 33*l*., damage alleged to have been sustained through the breach of warranty of a horse.

Mr. J. G. Calthrop, of Spalding, appeared for the plaintiff, and Mr. Toynbee, of Lincoln, for the defendant.

The hearing of this case owed its interest, not only to the respectable position of the parties concerned, but from the fact that it had previously been before the court. The action was originally tried in August, when the Judge entered a verdict for the defendant. Some further facts coming to the knowledge of the plaintiff subsequently to the trial, Mr. Calthorp, at the October Court, applied to the learned Judge to grant a new trial, he contending that the additional evidence he could produce was material to the issues of the case. The application was opposed by Mr. Toynbee, but acceded to by His Honour; he at the same time ordering that it should be heard again at the December Court, and that a jury should be empanelled to try the matter. Accordingly it was called on at this date. In order to obviate a recapitulation of the previous evidence, we propose to give but a summary of that adduced on the former occasion, and which was given before the jury again on this trial; and to lay before our readers more fully any fresh points introduced at the second hearing. The simple facts, then, as spoken to by the plaintiff and his witnesses in August, were these. Plaintiff, Mr. Shepperson, is a farmer in an extensive way of business in Deeping St. Nicholas; whilst defendant, Mr. Strawson, is an innkeeper and horse-dealer at Holbeach. In May last Mr. Shepperson attended Donington Fair, and purchased of the defendant a 3-year-old bay colt, for which he gave 67*l*., and he received with it a written warranty signed by Mr. Strawson. The horse was taken home to Mr. Shepperson's; and from something that came to his knowledge a month after, he sent for Mr. Metherell, veterinary surgeon, and he having examined the

horse, his certificate was forwarded to the defendant. This brought down Mr. Strawson, and Mr. Dobson, his veterinary surgeon; and the latter having examined the animal, defendant said to the plaintiff, "It's a bad job, and you must make the best of it." Acting upon that and other suggestions made by Mr. Strawson, Mr. Shepperson put the horse up at livery and had it sold by auction, the loss sustained on the sale being the amount for which he sued. On being severely cross-examined by Mr. Toynbee, Mr. Shepperson made and adhered to the statement that the action of the horse was exactly the same when it was sold by auction, as when he bought it of Strawson.

Mr. Robert Smith, farmer, plaintiff's son-in-law, was called to speak to the warranty being given: and John Lay, a horse-breaker, who took the horse to plaintiff's farm after the purchase of the animal, noticed a peculiarity in its gait, and he expressed it as his opinion that it was not sound at the time it was sold to him. This testimony was somewhat confirmed by a man who had been in the service of Mr. Vorley, to whom the horse had belonged some time prior to Donington Fair. Then Mr. Metherell was called, and after having carefully examined the animal, he gave it as his positive opinion that the horse was a "shiverer" and a roarer on the 25th June, and from his experience in such cases he had no hesitation in saying that it was unsound at the time Mr. Shepperson purchased it, inasmuch as such a defect would be a considerable time in reaching a climax.

For the defence, and in opposition to the theory of the plaintiff and his witnesses, various gentlemen were called.

The owners of the animal from its birth up to the time of its appearance at Donington were all examined, and each asserted that the animal was perfectly sound, so far as they knew, when it left their possession. The defendant admitted that he warranted the animal when he sold it, but he did so because he believed it to be sound, and he still believed that it was at that time. He attributed the unsoundness of the horse to an accident that had happened to it whilst in Mr. Shepperson's possession; but, whilst the plaintiff did not deny that an accident did befall it on his farm, Mr. Metherell stated that such an accident would not have created the symptoms displayed by the animal when he examined it. On the other hand, three experienced veterinary surgeons (Mr. Dobson, of Holbeach, Mr. Wyer, of Donington, and Mr. Hardy, of Sleaford,) pointedly contradicted the scientific theory set up by Mr. Metherell, and each averred that a concussion such as that alleged to have been sustained by the horse whilst with Mr. Shepperson, would in all probability be the cause of the symptoms which led Mr. Metherell to pronounce the animal a "shiverer." After some very able and elaborate argument by the counsel on both sides, His Honour thought the evidence of the three veterinary surgeons so conclusive, that he ordered a verdict for the defendant. Hence the re-opening of the case.

At this trial, Mr. Calthrop opened the case for the plaintiff, after which Henry Wiseman said he had had to do with horses and agricultural matters for twenty years. On the day on which the horse was sold, he saw it, and he considered that its back was affected, and therefore he did not buy it.

William Colvin, farmer, of Pinchbeck, saw the animal at April fair at Spalding. It was exposed for sale by Gray and Strawson. He thought the horse would suit him, but he did not buy it, because he noticed a peculiarity about it. He saw Lay take it home after Donington fair, and he was then sure it was not sound.

Joshua Owen, farmer, of Deeping St. Nicholas, stated that he had had experience with horses many years, and when he saw the animal in question it struck him that it was lame. He should say it was a "shiverer."

Mr. Richard Owen and Mr. Wm. Freir, farmers, of Deeping St. Nicholas, gave similar evidence.

Mr. Shepperson was examined at length, and gave evidence in effect the same as at the last hearing. He said, in continuation of his evidence, that after the last hearing he saw the horse at Mr. Crowther's at Horncastle, and he had it examined by certain veterinary surgeons. There was then no difference in the horse's gait to what he saw prior to the alleged accident.

Cross-examined by Mr. Toynbee: He saw the horse walked, trotted, and turned, before he purchased it at Donington fair, and he saw nothing peculiar about it. Lay first told him of something peculiar about the hind-leg, but after that he had the shoes taken off, and the animal turned out. He afterwards had it prepared for work, but at the same time he had his doubts as to whether it was sound. He did not complain to Mr. Strawson of anything but a peculiar gait until he got Mr. Metherell's certificate. It was Mr. Metherell who told him the horse was a shiverer. After the last trial, at Horncastle fair, Mr. Clark examined the horse and he had his certificate. He had spoken to Mr. Metherell and Mr. Clark, who had examined it since last trial. They expressed the opinion that it had been lame since its castration, and Mr. Holmes and Mr. Mackinder had that morning told him the same thing. He did not instruct Mr. Metherell to put the advertisement in the papers offering a reward of 5*l.* for information, and he was not very pleased when he saw it.

Re-examined: He noticed the peculiar gait after he got it home, but he had an impression that it would wear off.

Robert Smith, farmer, of Deeping St. Nicholas, spoke to his previous statements.

William Crowther, seedsman, of Horncastle, deposed that on the 10th August he bought the horse in dispute of Joseph Gray.

Mr. Calthrop was proceeding to ask whether the horse was warranted to him, but Mr. Toynbee objected to any matters between Gray and Crowther being introduced, and His Honour supported the objection.

Mr. Crowther continued that he bought the horse as sound, but so soon as he had paid for it he noticed something peculiar in its gait. If it had been perceptible at once, he should have seen it before he bought it. He should say the horse was a shiverer.

Mr. R. Metherell said he was a witness at the last trial, and he inserted the advertisement in question. Besides confirming the evidence he gave on the last occasion, that the horse was a shiverer and a roarer on the 25th June, said he saw it at Horncastle. On three occasions after that he examined it at Spalding, and he was confirmed in his previous opinion; and he had now not the slightest doubt about it.

Cross-examined: He voluntarily inserted the advertisement, and it was to set the matter right, because he knew there had been a miscarriage of justice. Offered £5 to any one who could swear the horse was lame before Donington fair. He had not parted with £5, and he had had no one to give him the information he asked. He considered his reputation was at stake, which made him offer the reward. He heard the horse roar sixty yards off, and his opinion was "once a roarer, always a roarer." This was on the 22nd September, and he and two others heard it in Mr. Tingey's field. The horse was sent there by the owner. His son, and Mr. Holmes of Bourn, and afterwards Mr. Mackinder of Peterborough, examined it. The horse was caught and tried, and all this without the knowledge of the owner. He did not think anything about this being proper conduct on the part of a respectable professional man. He considered the horse a roarer in an incipient stage. If the head of his profession (Professor Pritchard) told him there was nothing the matter with the horse's wind, he should still hold his own opinion. His symptom of shivering was that the horse dragged his hind-leg outward and upward, and kept it momentarily suspended. Another symptom was that the horse would

not back properly. He never attempted to back the horse before the 10th August.

Mr. Toynbee: Then that is new evidence got since the last trial; and you had better claim your own £5.

It might be attributed to shivering or partial paralysis. He saw nothing in the horse that might not have been caused by partial paralysis. Partial paralysis and shivering were synonymous terms. He did not suggest the same thing at the last hearing. Partial paralysis was frequently produced by accident, and might come on suddenly. A horse running through an oak gate would not produce partial paralysis. He believed the horse had been a shiverer since it was castrated. He thought the horse might be worked a year without people noticing the disease. He should say the animal had very likely been unsound two years. There were symptoms by which he could connect the disease from which this horse was suffering with castration.

Richard Mackinder, veterinary surgeon, of Peterborough, examined the horse with Mr. Metherell on the 22nd September. The horse was, in his opinion, a shiverer. There were no acute symptoms, and it must therefore have existed a long time. He was of opinion that the accident with the gate had nothing to do with the disease. He did not find the horse a roarer, but the breathing was not right.

Mr. Holmes, veterinary surgeon, of Bourn, of thirty-five years' experience, spoke to his examination of the horse on the 22nd September. His opinion was that the disease with which the horse was affected was a cross between string-halt and shivering. He believed the disease to have been hereditary, and not the result of an accident.

Thomas Clark, veterinary surgeon, of Horncastle, examined the horse for Mr. Crowther, and he should say it was unsound in April.

Cross-examined: He was a shiverer, and there was no string-halt; it was ridiculous to talk about string-halt. He was not a roarer; and he differed from Mr. Metherell on that point.

Astley Martin Metherell, veterinary surgeon, of Spalding, examined the horse on the 22nd and 23rd September, and there was no doubt about its unsoundness. In his opinion, from the swinging of the legs in April, the disease existed at that time.

Mr. Dickenson, veterinary surgeon, of Boston, had been in the profession twenty-two years. He examined the horse in September, and he pronounced him unsound. He should say the unsoundness arose from partial paralysis, and was existing in April. He should not call it string-halt, or shivering, or roaring.

This closing the case for the plaintiff, Mr. Toynbee, in addressing the jury for the defendant, said it was difficult to make out really what the plaintiff's case was, for there had not been two witnesses who had agreed with each other, or even with themselves. The question was whether on the 26th May the horse in dispute was suffering from anything that constituted unsoundness at the time the warranty was given. That the unsoundness existed now, there was no doubt, but that it existed then was totally denied. The learned gentleman having passed in review the history of the horse up to Donington Fair, criticised the evidence of the non-professional witnesses *seriatim*. As to the medical witnesses, he characterised Mr. Metherell as the most violent partisan he ever saw in a witness-box, and upon whose evidence the jury could not place the slightest reliance. On the last occasion he would stake his professional reputation that the horse was not afflicted with partial paralysis, but with shivering, whilst to-day he actually made the statement that partial paralysis and shivering were synonymous terms. That being so, he asked the jury to dismiss the evidence of a witness

who had so demeaned himself. He should call witnesses who would prove beyond a doubt that the horse was not afflicted with shivering or with string-halt, and that the evidence of Mr. Mackinder was mistaken. Having ably and at length pointed out the various apparent discrepancies in the medical testimony, the learned gentleman appealed to the jury to confirm the verdict given by His Honour on the last occasion.

Mr. Major, farmer, of Holbeach, and Mr. John Vorley spoke to the birth and growth of the horse, both asserting that in their opinion the horse was perfectly sound.

Robert Hannass and Charles Barker, in Mr. Major's service, corroborated his evidence.

William Rossington, who was in Mr. Vorley's service, and worked the horse, and who gave evidence for the plaintiff on the last occasion, gave corroborative testimony, as did also his son.

Mr. Kisby, blacksmith, of Holbeach, deposed to trimming the feet of the horse in question. He took up his hind-feet, and he had no difficulty whatever about it. He had shod shiverers, and there was a difficulty about getting their legs up.

Robert Barker said he worked the horse several times, and he should say it was perfectly sound.

Samuel Strawson, the defendant, said he bought the horse as a sound horse, and he gave £68 3s. 3d. for it. He sent it to Lincoln April fair, and showed it to Mr. John Gray, Mr. Mayer, and others. He then saw not a single symptom to lead him to believe the horse was unsound. He took the animal to Donington fair, and was bid £65 for it, but he refused to take it. Throughout he considered it sound, as did also all who saw him. When he saw Mr. Shepperson on one occasion, he told him that his men had been yoking it to a tree, that it had fallen back on it, and that it had run away and broken through a gate.

Mr. F. Upton, of Donington, had the horse in his field, and saw it frequently, and in his opinion it was perfectly sound. On the 16th July, after it had been to Mr. Shepperson's, the animal was sent back to Donington, and it was very different in its gait then from when he first saw it.

Robert Hewson, ostler for Mr. Upton, spoke in confirmation.

William Wright, shoeing smith, of Donington, shod the horse when it was at the fair; he had no difficulty in getting up the hind-legs. When he shod it after it went from Mr. Shepperson's, he could not get up its hind-legs without its kicking.

Richard B. Waddington, farmer, of Skillington, was at Lincoln April fair, and saw and examined, and saw walked and trotted, the horse in dispute. It was perfectly sound, and he bid £65 for it.

John Gray, horsedealer, of Grantham, who said he bought many hundreds of cart-horses in a year, saw the horse at Lincoln Fair, and bid £66 for it. He saw not the slightest symptoms of shivering, and he believed the horse to be perfectly sound. If he had bought the horse he should have sent it to Mr. Shepperson's, as he had given him orders to buy a good horse for him. After all he had heard to the contrary, he should say there was nothing the matter with the horse in April.

Mr. John Major, of Derby, who buys horses for the Midland Railway Company, Messrs. Bass, Allsopp, and others, bid £65 for the horse at Lincoln, and also saw it at Donington. There was not a single symptom of shivering about the animal.

Professor Pritchard, Professor of Anatomy at the Royal Veterinary College, and Principal Examiner of Horses, said the horse in question was sent up to him on the 16th November. He was not a shiverer, he was not a roarer, and he was as sound in his wind as any horse he ever examined in his life.

He backed him, and he backed very fairly, seeing what was the matter with him. He was labouring from partial paralysis in his hind-limbs. An accident would be the probable cause, and such an accident as he had heard had happened to this horse. Supposing the accident to have happened in June, there was plenty of time for the disease to have developed. There were no symptoms by which he or any other professional man could tell when the disease commenced. There was no string-halt. He examined thousands of horses in a year, and he could not call to mind a single instance of a three-year-old shiverer.

Robert W. Dobson, veterinary surgeon, Holbeach, confirmed his previous evidence, and denied that the horse was suffering from shivering or string-halt.

Goforth Wyer, of Donington; Mr. Hardy, of Sleaford; Mr. F. Watkins, of Mareham-le-Fen; and Mr. Hardy, of Grantham, all veterinary surgeons, gave evidence, and positively denied that the horse was a shiverer, affected with string-halt, or a roarer.

Mr. Hardy, of Lincoln, also corroborated.

This concluding the defendant's case, Mr. Calthrop summed up the case for the plaintiff.

His Honour here explained that if they wished him to assist them in the matter, he could not sum up that day.

The jury having consulted together, said they could dispense with the assistance of the Judge, and immediately returned a verdict for the defendant.

The greatest excitement was evinced by the crowd that filled the court throughout the day, and the announcement of the verdict was received with some applause. It is some years since a case was heard at Holbeach that created such general interest among all classes. The hearing occupied from 10.30 a.m. to 6 p.m., and the interest did not flag in the least throughout.

With regard to this law-suit, Mr. Metherell writes as follows:—

"I, as plaintiff's principal Veterinary witness in the case, beg a small space for a few remarks.

"In the first place, I must say that in all my long and extensive experience, I have never known a case so gross on the part of the defence; for the animal was as clearly unsound at the time of purchase by plaintiff as any horse ever was in this world! Most unfortunate for Mr. Shepperson was his disclosure to defendant, that the horse broke away from the lad when being got ready for work, and running down the farm, rushed through a gate. The said gate was aged thirty years, and would resist the animal's force a trifle more, perhaps, than a hay-band stretched across the opening would have done; and this circumstance alone gave rise to the defence.

"Now, I examined the horse three days after this runaway incident occurred, and though trotted round the open yard several times, I could detect nothing abnormal; but when brought out and moved at a walk on the hard road, 'shivering' was as visible as daylight, for at every ten or twenty paces one or both hind-legs were snatched up and momentarily suspended in the air.

"Now, I would ask Professor Pritchard, who gave evidence, and indeed the whole Profession, whether these are the symptoms likely to follow *three days* after such an accident? Would not the fore-extremities, the chest or shoulders—the parts which alone came in contact with the gate—have been more likely to have been injured, and stiffness or lameness to have arisen therefrom? Nothing of the kind appeared; and if the accident had not been known by defendant, I believe that every Veterinary Surgeon who gave evidence would have considered the case as one of an old-fashioned chronic 'shiver,' 'swung-back' or partial paralysis,—and would not have advised defending the action.

"Now, sir, mark this: One of the trustees under Vorley's bankruptcy, and consequently a vendor when *Strawson* bought the horse, Mr. J. Foster, a man of great experience among horses, and who was subpœned to give evidence for defendant, called on me the day after the trial, and said, 'It was a cruelly hard case for Mr. Shepperson; for although I said to the company when the horse was brought out at Vorley's sale, that he was perfectly sound for anything I knew, yet, on returning to the stable, I saw most clearly that he was a "shiverer"'! My opinion being known, the defendant's advocate took care not to call me. A dozen or more witnesses not mentioned in the report gave evidence of the animal's previous unsoundness,—but in this, as in most other cases of the kind, a witness with a 'handle' to his name carried the verdict. The Professor's evidence took a lot of farmers and dealers present by surprise, especially when he said he had never seen a three-year-old horse a 'shiverer'! But I venture to say that the gipsy element—interested, it is said, in the case—could have enlightened Mr. Pritchard by ocular demonstration of cases probably in their possession a few miles away. Again, Professor Williams in his elaborate veterinary work, for which the Profession is much indebted to him, says, 'shivering,' in one form or another, will very often be found in horses two or three years old, which have been subjected to no hardships; and he relates one instance in which four young horses, the progeny of one dam, were all so affected before they were three years old! The horse in question was sold at Horncastle Fair by a man known as Gipsy Gray, with a warranty of soundness; and on the very day of the first trial, when unsoundness at that time was admitted on all hands. The purchaser, Mr. Crowder, of Horncastle, like Mr. Shepperson and Mr. Foster, did not notice the animal's defective gait until after he was bought and paid for; so that plaintiff's purchasing him when unsound was not to be wondered at. Mr. Crowder at once returned him.

"With reference to the *roaring*, professional opinions varied; but let me ask whether *the respiratory organs can be perfect* when, suddenly slipping up whilst trotting in a grass field, a horse is heard to roar *as this one did*, a distance of seventy yards; and when, being suddenly struck or tested in the usual way, he roars also, yet in a trot or canter the roaring is not distinct. My opinion—which was given on oath, and which I still adhere to—is that such an animal is unsound. In conclusion, I think the Veterinary Profession will agree with me that in this case a gross and cruel miscarriage of justice has occurred, and that neither defendant nor his witnesses can be much congratulated on their victory, except so far as *£ s. d.* are concerned."

Parliamentary Intelligence.

HOUSE OF COMMONS, MARCH 6TH.

Drugging of Animals Bill.

SIR J. ASTLEY moved the second reading of this Bill.

MR. GOLDSMID asked for an explanation of its provisions. He objected to a clause in the Bill relating to the administration of drugs to animals by veterinary surgeons, and suggested that the hon. member who had charge of it did not know what it contained last year.

SIR J. ASTLEY said he had made himself acquainted with this Bill, and that it was intended to prevent the drugging of agricultural horses to improve their coat—a practice which was resorted to by labourers without the knowledge of their masters, or by owners before offering them for sale. Instances

were named in which animals had dropped down dead, and arsenic was afterwards found in their stomach.

The Bill was read a second time.*

MARCH 9TH.

Cattle Disease (Ireland) Bill.

SIR M. H. BEACH moved the second reading of this Bill. It proposed that in certain cases the Privy Council should issue compulsory orders for the slaughter of diseased animals, the orders to be carried into effect by the board of guardians, or under their direction.

MR. SULLIVAN thought it strange that the guardians of the poor should be the body specially chosen for carrying out the provisions of the Bill.

After a short discussion the Bill was read a second time.

(This Government Bill to prevent the introduction into Ireland, and spreading therein, of Cattle-plague or Rinderpest, Pleuro-pneumonia, Sheep-pox, and Glanders, and amending the Cattle Diseases Act of 1866, proposes that the Lord-Lieutenant shall have power to make Privy Council Orders from time to time in case Cattle-plague or Rinderpest, Pleuro-pneumonia, Sheep-pox or Glanders shall, to his satisfaction, be shown to exist within the area of any poor-law union in Ireland; for directing the board of guardians of such poor-law union to provide for the compulsory slaughter of animals affected with any of the said diseases, and burial of those that have been in contact with animals so affected, or that are likely to propagate by infection any of the said diseases; for the appointment by the board of guardians of such poor-law union of local inspectors and valuers for the purposes of this Act; for defining the powers and regulating the duties to be performed by such local inspectors and valuers respectively; for fixing the period or periods for which such local inspectors and valuers shall be appointed, and the remuneration and allowances to be paid to them respectively; for fixing the amount of compensation to be paid in respect of animals slaughtered in pursuance of this Act, where the same is not prescribed by the principal Acts; for regulating the proceedings before valuers under this Act, ascertaining the amount of compensation payable in respect of animals slaughtered in pursuance of such orders, and generally for such purposes as he may, with the like advice, think expedient. The 13th and 14th clauses relate to the mode of payment of compensation and proceedings in case of default.)

MARCH 13TH.

The Veterinary Principal Surgeon to the Army.

In reply to MR. STACPOOLE, as to the reason why it was that the Principal Veterinary Surgeon retained his position in the army for an indefinite period, while other officers had to retire at stated periods, MR. HARDY stated that there was no warrant relating to the office of Principal Veterinary Surgeon to the army. There was no regulation fixing the period of retirement; but whether it would be desirable to make a change, and put the office on the same footing as that of the Director General of the medical department, was a question well worthy of consideration.

MARCH 14TH.

Contagious Diseases (Animals).

MR. READ called attention to the Report of the Contagious Diseases (Animals) Act Committee, 1873, and moved the following resolution:—"That, in the opinion of this House, the general orders and regulations for the

* See vol. i., p. 118 of the *Veterinary Journal* for the provisions relating to this Bill.

stoppage of disease shall cease to be varying or permissive, and shall be uniform throughout Great Britain and Ireland." He remarked that the Committee unanimously passed two very important resolutions: one was that an endeavour should be made to stamp out Pleuro-pneumonia by slaughtering cattle and compensating owners for their loss,—the other was that the orders for the stoppage of disease should cease to be varying and permissive, and that they should be uniform for Great Britain and Ireland. No sooner was the report of the Committee published than the right hon. member for Bradford issued an order for the slaughter of diseased animals in Great Britain and compensation to their owners; but Ireland was omitted from the order. The defect would no doubt have been remedied had Mr. Forster remained in office; but the present ministry came in, and things went on just in the same way as before, until in the month of May a deputation waited upon the Duke of Richmond to impress upon his mind the necessity for carrying into effect some of the recommendations of the Committee. He was a member of that deputation, and urged that the slaughter of animals affected Pleuro-pneumonia should be extended to Ireland,—or, if that could not be done, that the order in force in Great Britain should be rescinded. On that occasion, and also afterwards, they were told that it was impossible that this measure could be carried out. On the first day of the Session he laid before the House a resolution to the effect that the order should be extended to Ireland or rescinded; and, a few days afterwards, the Duke of Richmond made a statement in another place that the request would be granted; he, therefore, withdrew his resolution, only regretting that it required two years to produce that effect on His Grace. He might mention that the Irish Cattle Defence Society had passed a resolution that it was desirable that the regulations should be the same in England and Ireland. It might be thought that, as a farmer, he was prejudiced in this matter; and consequently he preferred to quote the opinions of others. A few days ago, an eminent veterinary surgeon, Mr. George Fleming, of the Royal Engineers, read an able and exhaustive paper, in which he insisted upon uniform measures being applied throughout Great Britain and Ireland. With regard to Foot-and-mouth disease, the Duke of Richmond had merely re-enacted in 1874 certain orders which the right hon. member for Bradford had rescinded. When the country was reeking with infection, it was absolutely ridiculous to suppose that these orders could have the slightest effect in stopping the disease. From the inquiry of the Committee on this subject, it appeared that the one article of faith of the permanent officials was their faith in inspection—inspection to discover diseases which everybody admitted had a period of incubation varying from a few days to several months. Mr. Fleming, a man of great experience, remarked that he had no faith in inspection, and believed it to be a fallacy. Since the Report of the Committee, it might be asked what the Veterinary Department had done to enlighten the public and stop this disease. Well, it had published an experiment made outside the office about inoculation for Pleuro-pneumonia, which he read months before in a veterinary journal, and the officials came to the remarkable conclusion that inoculation was of dubious value. (A laugh.) Then last year an order was issued telling the authorities throughout the kingdom how they might detect the incubation of the disease by the application of the thermometer. Now, as long ago as 1865 Professor Gamgee wrote to *The Times* with this information; and in 1866 full directions were given for the use of the thermometer. This, however, was the information given by the Department ten years after date. The test thus recommended might be practicable in a London dairy, where the cows were as quiet as pet lambs; but he should like to see all the Privy Council officials try to use the thermometer upon Irish cattle in a marsh, or even in a straw-yard, The officials of the Privy Council depended upon official corre-

spondence for much of their information of what was happening abroad. This might do as regarded Cattle-plague, but not as to Pleuro-pneumonia and Foot-and-mouth disease. Everybody, except the Privy Council, knew how rife disease was both in Holland and Belgium ; but though Germany had recently prohibited the introduction of cattle from those countries, no adequate precautions were taken here. Was it fair and right to the agriculturists of this kingdom that, if we were going to make a costly and harassing experiment to check the progress of Pleuro-pneumonia, reasonable precautions should not be taken against the reintroduction of it? (Hear.) The precautions now taken were simply these –a detention of twelve hours to find out a disease which veterinary surgeons declared had an incubation of from three weeks to two months. (Hear.) A detention of twelve hours therefore rendered it utterly impossible to detect the disease, except by the merest accident. In the best London dairies no cows were admitted without first being quarantined and inoculated. It would be no hardship, therefore, to make this a compulsory rule. As to store stock for grazing purposes, it was well known that, with some exceptions, they hardly ever came to this country. Some evidence was given before the Committee as to the percentage of foreign supply. Some years ago he made a rough guess that it was not more than 5 per cent. The Veterinary Department calculated it at 14¼ per cent, but last year reduced their estimate to 10 per cent. He much preferred, however, to rely upon the elaborate calculations submitted by an independent witness to the Committee that the percentage of live meat imported was 5 per cent., of dead meat 12 per cent., while the home production was 83 per cent.; and it was for the sake of the 5 per cent. that the 83 per cent. we produced was to be endangered. (Hear, hear.) The supply of foreign cattle was mainly directed to London. When the Deptford market was opened, the tolls on our home cattle at Islington were doubled. (Hear.) Deptford was an excellent market, but it had no railway accommodation ; and it was almost impossible for cattle slaughtered there to be sent to the country or to the manufacturing towns. The regulations in force were that if one animal from an unscheduled country happened to be the subject of disease, the whole cargo was to be sent to Deptford market. Now, he thought that if all foreign cattle were consigned to Deptford, trade would by this time have settled down there, and buyers would regularly attend that market. Great cruelty and loss was involved in the present process ; whereas our object should be to give every facility to the extension of the dead meat trade, both on sanitary and commercial grounds. There was no doubt that if Aberdeen, a distance of 540 miles, could send dead meat to London with advantage, there was no part of England to which meat could not be sent from the metropolis. Mr. Odams, at whose wharf a great many foreign cattle and sheep were slaughtered, told the Committee that the meat was forwarded to Manchester at a less loss than the living animals could be. Having quoted the authority of Mr. Fleming in favour of killing cattle fit for immediate slaughter upon their landing on our shores, as the only humane and economical course, the hon. gentleman said he could enlarge, if time allowed, on the curious Bill which was passed last year for giving new life to slaughterhouses in London. Some thirty years ago those slaughterhouses were condemned by Sir R. Peel ; but in consequence of the recommendation of a Committee, over which Dr. Brewer presided, the House of Commons passed a Bill for their continuance at a time when most of the cities in Europe, and a good many in our own country, were abolishing them. It was said that he was an enemy to the Irish farmer. He was no such thing; and he was happy to find that the Cattle Defence Association of Ireland had adopted his views. In Norfolk they got from £30,000 to £50,000 worth of stock in the year from Ireland; and if that supply were to cease, a great number of the farms there would be starved. He only wanted Ireland to be

treated as an integral portion of the United Kingdom. The present regulations combined the *maximum* of restrictions with the *minimum* of benefit. They did no good whatever. They must therefore either repeal them altogether and trust to the Act of Parliament, or they must go in for more stringent regulations. When a man took stock into the market, he found the borough authorities had one rule and the country authorities had another. He knew a man whose farm extended to three counties, and he had three distinct rules for three different portions of his farm. The Duke of Richmond said in his speech at Chichester that one thing was against him—they had so few veterinary surgeons in Ireland. There were 1700 cattle inspectors, but only 307 veterinary surgeons. He thought if they offered fair inducements in Ireland, with better pay than ten shillings a day, and without instant dismissal at the will of the head of the Department, they might get veterinary surgeons from England. Having to deal with so many local authorities in Great Britain was a source of great weakness. It was said that farmers in asking protection against disease were seeking to revive trade protection. He repudiated that entirely. For himself, he would only say that, through evil and through good report, he had maintained the opinions he had now enunciated. What he wanted was that these regulations should no longer be left in their present uncertainty. He maintained that the feeling of the Veterinary Department of the Privy Council was unscientific, unpractical, and opposed to common sense; that we must get rid of half-and-half measures, and give up any idea of making any compromise with these fell diseases; that we must treat Great Britain and Ireland as one country, and apply throughout regulations that were alike—at least in principle; and that we must not allow local authorities to carry them out or not according to their will or caprice.

MR. O'CONOR, who was seconded by MR. J. BARCLAY, spoke chiefly on the Foot-and-mouth disease, and moved as an amendment that it is further desirable that the recommendations of the Select Committee of 1873 in relation to Foot-and-mouth disease should be carried into effect.

MR. FORSTER explained at some length the course he had himself taken on this very important subject of Cattle Diseases when Vice-President of the Council, and said the changes which had been made by the present Government could not be maintained. He intended to support both the Resolution and the Amendment. As to Foot-and-mouth disease, there was no alternative between abolishing all restrictions and sending all animals to Deptford market.

MR. KAVANAGH maintained that the Foot-and-mouth disease could not be checked by legislation, while COLONEL KINGSCOTE advocated stringent and universal measures of restriction. MR. NEWDEGATE, MR. COLMAN, SIR J. H. SCOURFIELD, MR. M. STEWART, and MR. W. EGERTON supported the motion; and MR. TURNOR recommended that local authorities should have greater powers, and that Inspectors should be sent through all fairs and markets.

CAPTAIN NOLAN complained that the interests of Ireland were about to be sacrificed by the measures suggested, but

SIR W. BARTTELOT maintained that the interests of the three kingdoms were identical; and that, as England could not dispense with the supply of Irish cattle, her great interest was that the supply should be uncontaminated and uninfected. He was for stringent inspection at the port of embarkation.

MR. PELL held that there was no way of dealing effectually with the Foot-and-mouth disease short of killing.

LORD ROBERT MONTAGU maintained that universal regulations would not apply.

MR. BRUEN spoke in favour of the amendment, and COLONEL LEIGH and MR. STORER supported the motion.

LORD SANDON, in referring to MR. READ'S speech, took occasion to express the regret of the Government for his loss as a colleague, and also gave expression to the sympathy of the Government with the farmers in the great losses which they had sustained. The Government thoroughly agreed that uniformity of regulation was an object to be aimed at; they had already taken several important steps to attain it, and when the Irish Bill now before the House was passed, a great advance would have been made. Among other measures adopted for this object, LORD SANDON mentioned the appointment of Travelling Inspectors, the inspection of ships, etc. Seeing that there was considerable difference of opinion as to the treatment of Foot-and-mouth disease, he asked that before the Government was pressed to do more it should be allowed to watch carefully the operation of the measures it had had already taken; and he urged the inexpediency of interfering unnecessarily with the supply of meat and the farmers' trade.

MR. READ said that as the Government agreed to the principle of uniformity he did not wish to press his motion, but he remarked that all the changes mentioned by the VICE-PRESIDENT had been made since last November (when MR. READ resigned).

The motion and the amendment were then both withdrawn.

Army Veterinary Department.

Gazette, March 7th, 1876.

Veterinary Surg. R. Poyser, Royal Artillery, to be Veterinary Surg. of the first class.

Veterinary Surg. F. C. Boulter, C Brigade, Royal Horse Artillery, has been granted leave from India to England from Dec. 23 to June 22, on medical certificate.

Obituary.

We have to record the decease of Mr. James Hipper, M.R.C.V.S., London, who graduated December 17th, 1856.

The death is also announced of Franz Renner, Professor of Farriery in the Vienna Veterinary Institute: and of M. Rawitsch, Magister in Veterinary Medicine, and Professor in the Imperial Medico-chirurgical Academy of St. Petersburg.

Correspondence, etc.

To the Editor of the VETERINARY JOURNAL.

DEAR SIR,—I much regret to find that at the Council meeting in January, it was resolved to omit the clause of the amended charter which provides for the punishment of persons illegally assuming the title of "Veterinary Surgeon;" but at the same time I think it will be found that the power of preventing unqualified persons using this title already exists, though the means of doing so would be troublesome and expensive.

In the original Charter of Incorporation of the Royal College of Veterinary Surgeons, the following paragraph occurs:—"And we do further declare and grant that the veterinary art, as practised by the members of the said body, politic and corporate, shall be henceforth deemed and taken to be and

recognised as a profession, and that the members of the said body, politic and corporate, *solely and exclusively of all other persons whomsoever*, shall be deemed and taken and recognised to be members of the said profession or professors of the said art, and shall *be individually known and distinguished by the name and title of Veterinary Surgeon.*"

It seems clear enough to my mind that every person, other than a M.R.C.V.S., who uses the title of Veterinary Surgeon, violates the provision of the Royal Charter contained in the foregoing paragraph; and if this be so, I believe I am correct in stating that an injunction in Chancery may be obtained against any person committing such a breach of the privilege conferred by her Gracious Majesty. No doubt the obtaining of such injunction would be an expensive proceeding; but until some protection is afforded to our profession, its members will never occupy the position which they ought, and for my part I will very gladly subscribe to any fund which may be raised to try this question, and I will take it as a favour if any of the readers of your valuable journal who approve of this suggestion would communicate with me.

I am, Sir,

Yours faithfully,

Drogheda, Ireland,
Feb. 14, 1876.

THOS. H. SIMCOCKS, M.R.C.V.S.

ANSWERS TO CORRESPONDENTS.

F. G. BARKER.—The 1854 edition of "Oliphant on the Law of Horses" was published by S. Sweet, 1, Chancery Lane, London. We think the price is seven shillings and sixpence.

The communications pressed out of this month's issue shall appear in our next.

Communications, Letters, Books, etc., Received.

COMMUNICATIONS have been received from A. J. Owles, Aldershot; Professor McEachran, Montreal; Veterinary Department, Privy Council, Dublin; Richmond Keele, Shanghai; J. Watson, Leith; F. G. Baker, Junr., Dewsbury; J. Rowe, Junr., London; W. Fryer, Stroud; "Digamma"; "Five Points"; R. Wetherell, Spalding; A. R. Colman, Ontario; Professor Smith, Toronto; T. Greaves, Manchester; R. H. Dyer, Limerick; W. Field, Junr., London.

BOOKS: Report of the Royal Commission on the Practice of subjecting Live Animals to Experiments for Scientific Purposes; *Mégnin*, Étude sur la Diathèse Dartreuse; *Baillet*, Traité de l'Inspection des Viandes de Boucherie; *A. C. Gerlach*, Die Fleischkost des Menschen vom Sanitairen marktpolizeilichen Standpunkte; *J. Howard*, Our Meat Supply.

JOURNALS: *Journal of the Society of Arts; Veterinarian; Annales de Méd. Vétérinaire; Journal de Médecine Vétérinaire et de Zootechnie; Wochenschrift für Thierheilkunde und Viehzucht; Der Thierarzt; Journal of the National Agricultural Society of Victoria.*

NEWSPAPERS: *The Wexford Constitution; Agricultural Gazette; Scotsman; Lancet; British Medical Journal; Mark Lane Express; Live Stock Gazette; Toronto Daily Leader; Bell's Weekly Messenger; Magnet; Liverpool Mercury; Land and Water; Rod and Gun; Lancet.*

All Communications, Books for Review, Advertisements, etc., must be addressed to the Publisher, 20, King William Street, Strand, W.C.

Morbid Specimens are to be forwarded addressed to the Editor, "Veterinary Journal," Brown Institution, Wandsworth Road, London.

Communications must be accompanied by the name of the writer, whether he may desire to have it published or not. Anonymous letters and articles cannot be inserted. The Editor does not hold himself identified with the views or opinions expressed by Contributors. Communications for insertion in the next number must arrive on or before the 15th of the present month.